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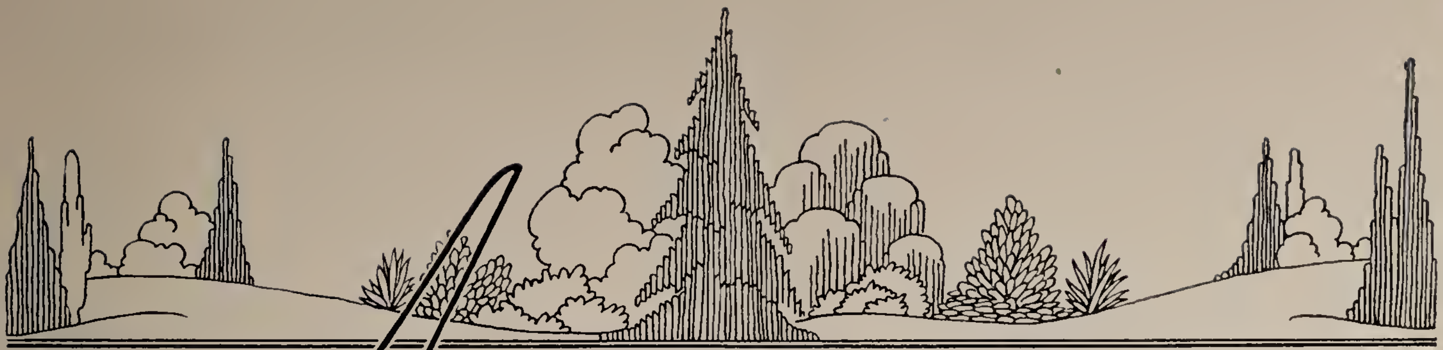

The Arboretum Bulletin

# Spring Progress in the Arboretum

BRIAN O. MULLIGAN

THE spring months of 1948 have proved to be both cooler and wetter than those of 1947,* and as a result the earlier rhododendrons, magnolias, camellias, and other shrubs have been two to three weeks later in flowering. On the other hand the display of flowers has been excellent; in some cases, for example, the camellias, certainly better than in 1947, and with cooler conditions lasting longer, although the frosts experienced on nine nights in March, as well as the heavy rains later in the month and in April, marred some of the camellia and rhododendron blooms.

### *Planting Operations*

Much of the staff's time has been occupied in moving shrubs from the nurseries to temporary or permanent positions elsewhere, and many hundreds have been thus transplanted since our last report was published. More than sixteen hundred azaleas have been placed in the northern half of Azalea Way, comprising over twenty species, varieties or hybrids, most of them not already represented there as yet, and including more of Mr. B. Y. Morrison's Glenn Dale hybrids as well as some received from Japan prior to the war, with *A. Kaempferi, A. reticulata,* and the bright rose-colored *A. Albrechtii.*

On the steep south bank of Rhododendron Glen about 125 plants of rhododendrons of the *Triflorum* series have been planted, over 300 of the dwarf *Lapponicum* series, with a corner group of winter and early spring flowering heathers; already many of these have shown something of their capacity for brightening this slope early in the year, supplemented by the Yoshino and other flowering cherries added 'round this horseshoe-shaped area during the past winter.

To the north of the Glen the triangular bed dug during the winter was planted in March with all our available species of Kalmia, Pieris, Leucothoe, and some close allies, together with three widely spaced plants of the handsome *Magnolia Soulangeana* var. *Brozzonii,* which eventually should be conspicuous even from the Boulevard.

The McEwan planting on the west side of Azalea Way has been completely overhauled, first by removing almost all plants in order to clean the ground thoroughly of quack grass and other perennial weeds, then laying a drain at the southwest corner to carry off excess water, by adding more soil, sand and peat, and finally replanting chiefly with evergreens—Laurustinus, Oregon grape, native evergreen huckleberry, and heathers in the forefront—lightened by Japanese cherries, eastern dogwoods and Oregon azaleas. This newly completed work, designed and supervised by Mr. R. J. Hansen will, it is hoped, fulfill the original intentions of the Seattle Garden Club as a permanent tribute to Mrs. Alexander McEwan.

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* Excess rainfall since January 1st 3½ inches over average by mid-May. March and April rainfall, combined, 6.23 inches, compared with normal of 5.43 inches in Seattle. Mean temperature in April 48°; normal 51° F.

A final large planting of Japanese maples has been made from the plants remaining in the nursery since their importation from Japan in 1940-41. Seventy-five have been placed in the maple collection west of and close to the Boulevard where they should well display their attractively colored foliage in future years; another thirty plants in Woodland Garden, chiefly along the north bank where some were planted a year ago. Here also we have made a new planting of Hellebores, Primulas, blue poppies, Jack-in-the-Pulpit, and other plants which enjoy such partially shaded and cooler conditions, whilst water lilies, presented to the Arboretum by the West Seattle Garden Club, have been placed in the ponds at the east and west ends of this garden.

Additions have been made to the magnolia collection, some thirty-two plants in all, including ten of *M. Kobus* and nearly as many seedlings of *M. Lennei* planted beside the trail on the west side of this area, besides examples of *M. Campbellii, M. Veitchii, M. salicifolia* and other species.

The nucleus of a collection of walnuts, hickories and related genera has been set out between Azalea Way and the Boulevard, nearly opposite the lower western end of Woodland Garden. Just inside the entrance to the former dump area, opposite the eastern end of Miller Street, a third planting of varieties and hybrids of Japanese quinces was made during April, including twenty-three plants in thirteen varieties. This is adjacent to the two groups planted a year earlier, some of which gave us an indication this spring of their colorful promise for many seasons to come. Three young trees of the hybrid crabapple *Malus robusta* were included in this latest planting of quinces, both to prolong the flowering period on this site and also provide us with the pleasure of their bright-red fruits in fall and early winter.

Between this section and Montlake Boulevard a number of flowering Prunus trees have been added to enlarge existing groups and extend the display already to be seen here in March and April. Several fine forms of the Japanese apricot *(P. mume)* and peach are amongst them, as well as the older well-known purple-leaved plum and its variations *(P. cerasifera* var. *atropurpurea),* many donated to the Arboretum several years ago by the Mercer Island Garden Club.

A line of native dogwood trees has been set out on the south side of E. Lynn Street, approaching the Arboretum from the Montlake district, while around the parking lot just north of the bridge over the Boulevard newly planted groups of hydrangeas (about a dozen named varieties of *H. macrophylla),* yellow-flowered azaleas, the hybrid *Daphne* "Burkwoodii", with some ceanothus for variety of color and texture, should give an extended flowering season from spring to fall.

The planting of the new area for the family Leguminosae has also begun, sited east of the Upper Road between the nursery and Rhododendron Glen. The first genera to be dealt with are the locusts *(Robinia),* yellow-wood (Cladrastis), honey-locusts *(Gleditsia),* Kentucky coffee-tree *(Gymnocladus)* and *Maackia.* The shrubby groups such as *Caragana, Amorpha,* and *Genista* will follow these. Six hundred pounds of fertilizer have been applied to this section.

### *Temporary Planting*

Apart from these permanent plantings, a number of important genera have, as already indicated, been transferred from the nurseries to other temporary nursery areas close to their final planting positions. These are: first the hollies, hypericums, and hebes (the shrubby New Zealand veronicas) close to the Upper Road south of the Glen; and secondly, cotoneasters, sorbus, spiraeas and related genera to a site towards the northern end of the Arboretum, east of the roadway running out towards Union Bay.

By this means we have considerably thinned out the overcrowded nurseries (cotoneasters alone numbered two hundred plants, hebes about one hundred), and the plants themselves should be in better condition for subsequent transplanting after another season's growth in their new quarters. Time and lack of labor has prevented us from dealing similarly with *Philadelphus, Deutzia, Ribes,* and other members of *Saxifragaceae,* as we had hoped.

### *Acquisitions*

During these months under review the Arboretum has received some notable gifts of a practical kind, prominent among which is the Wichita soil-shredder and compost mixer, presented by the Arboretum Units from the proceeds of a plant sale held at the Arboretum in mid-March, supplemented by funds from the Arboretum Foundation. Of plants, the collection of eighty-one kinds of hollies, through the generosity of the State Conservation Society, is outstanding, and will in due time form the substantial basis of our Holly Grove. Further equipment purchased includes an eight-foot wide flexible spike-tooth harrow, already proving to be a most efficient and useful tool; three hundred feet of hose, an eighteen-inch lawnmower for small areas, and a gasoline pump and five hundred-gallon storage tank to make us independent of University facilities in this department.

From the Montreal Botanic Garden came a welcome collection of eight uncommon conifers, chiefly natives of the southern hemisphere, and including four species of New Zealand *Podocarpus* which may well prove to be hardy in this climate. The Institute of Forest Genetics at Placerville, California, sent us seeds of eight rare conifers from the Far East, none of which we previously possessed; two species of hemlock *(Tsuga)* were amongst them. Young trees of rock and slippery elms, and of the black maple, came to us from the Huntington College Botanic Garden in Indiana, and are useful additions to our collections, as are three species of dogwoods *(Cornus)* from Warinanco Park, Elizabeth, New Jersey.

The Arboretum has sent out sixty-six collections of seeds to other botanic gardens and arboreta, particularly to Europe, chiefly those of native Washington plants which are most in demand.

### *Library*

The library continues a steady growth and the need for new shelving to take care of the growing collection becomes more and more apparent. Some of the more unusual, interesting or useful additions are: Linnaeus' "Genera Plantarum," edition VI (1764); "Garden and Forest," vols. V, VII, VIII (1892-5); C. Schneider's "Illustriertes Hanbuch der Laubholzkunde," 2 vols. and index (1906-12); Parey's "Blumengartnerei," in 2 vols., by C. Bonstedt (1930-32); "Los Juniperos Mexicanos," by M. Martinez (1946); "Genus Paeonia," F. C. Stern (1946); "Native Trees of Florida," E. West and L. E. Arnold (1947), and "The New World Cypresses," C. Wolf and W. Wagener (1948), kindly presented to us by Dr. P. A. Munz, Director of the Rancho Santa Ana Botanic Garden at Anaheim, California, whence this detailed monograph has originated.

### *Visitors*

Two notable visitors amongst the many who have visited the Arboretum this spring have been Mr. B. Y. Morrison, Director of the Office of Plant Exploration and Introduction at Washington, D. C., and also Acting Director of the National Arboretum there, as well as raiser of some of the new types of azaleas which we are now growing, and more recently Dr. Edgar Wherry, of the University of Pennsylvania Department of Botany, an authority on *Polemonium* and *Phlox*. Dr. Wherry was in the course of a phlox-collecting tour at the time of his visit early in May.

### *Photographs*

Series of photographs of various individuals or groups of plants, usually in flower, are now being regularly taken in the Arboretum by the staff of the University Campus Studios. In mid-April Japanese cherries and some of the earlier rhododendron species formed the main subjects; in early May more rhododendron species were taken in color, for use later in the form of slides.

Amongst the latter were *R. Falconeri*, flowering for the first time, and *R. formosum*, which has proved hardy and grown well in the Glen. Another very notable species to flower in the nursery at the beginning of May this year, as well as in the glasshouses some weeks earlier, was *Rhododendron Lindleyi*, bearing three or four magnificent, fragrant white trumpets in each truss of flowers. If these plants, native of the Himalayas, can be grown here

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# The Morton Arboretum, Lisle, Illinois

E. L. Kammerer*

THE lifelong vision of a profound lover of trees became a reality in the fall of 1922 when Mr. Joy Morton, the eldest son of J. Sterling Morton, the founder of Arbor Day and a pioneer in the reforestation movement, founded the Morton Arboretum.

Though an Arboretum is by definition a place where trees and shrubs are cultivated for scientific and educational purposes, Mr. Morton interpreted the meaning in an even more liberal sense as the following quotation from the original declaration of trust reveals.

"Creating a foundation to be known as the Morton Arboretum, for practical, scientific research work in horticulture and agriculture, particularly in the growth and culture of trees, shrubs and vines by means of a great outdoor museum arranged for convenient study of every species, variety and hybrid of the woody plants of the world able to support the climate of Illinois, such museum to be equipped with a herbarium, a reference library, and laboratories for the study of trees and other plants, with reference to their character, relationship, economic value, geographical distribution and their improvement by selection and hybridization; and for the publication of the results obtained in these laboratories by the officials and students of the Arboretum, in order to increase the general knowledge and love of trees and shrubs, and to bring about an increase and improvement in their growth and culture."

Since its establishment 25 years ago expansion and improvement have continued without interruption until today the Arboretum includes an area 835 acres in extent, accessible throughout by a well-planned system of surfaced roads and marked pathways, and featuring a woody plant collection numbering approximately 5000 species, varieties and hybrids. The achievement this represents can be better appreciated when it is understood that there are probably not more than 6000 woody plant species and varieties which may be expected to grow in this area.

Favored by an exceptionally choice site, not only from the standpoint of existing native woodland, varied topography and soils, but also as regards accessibility to the entire Chicago region, the Arboretum affords ideal conditions for growing, testing and displaying ornamental plants. The limitations of the collection are climatic rather than geographical with the objective being to grow a specimen of every woody plant that will live out of doors in this difficult climate.

In determining the system of plant arrangement within the Arboretum special emphasis was laid upon practicability and usefulness. The plan adopted provided for the grouping of trees and shrubs in generic groups with no attempt at strict taxonomic sequence; for their segregation in geographical plantings according to native habitats; and wherever potential forest value existed, in test forestry plots. A fourth group, the landscape plantings, demonstrates the esthetic uses of woody plants.

Visitors to the Morton Arboretum note at once the natural restfulness of the plantings and the pleasing air of informality which prevails throughout the grounds. This effect has been achieved by careful attention to the landscape relationship between introduced plants and existing vegetation. The deep woods have all been left undisturbed and the characteristic "oak openings" and sunlit meadows so typical of northern Illinois, kept intact.

In addition to the scenic beauty of the native woods and wild flowers and the interest afforded by the botanical plant collections, the Arboretum offers the following special attractions:

*The Test Hedge Garden.* This formally arranged tree-enclosed feature which serves as a practical hedge demonstration planting, affords an unequalled opportunity for first-hand observation and comparison of the effects of formal clipping on a wide range of woody plants. Some of the hedges have been under observation for 16 years. In addition to the 108 types of trimmed hedges, 52 examples of unclipped materials may be seen near by.

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* Mr. E. L. Kammerer is Arboriculturist at the Arboretum of which he writes.

*The Ground Cover Collection.* Features 100 plots of woody and herbaceous ground cover plants adaptable to various soils and moisture conditions and different degrees of shade and exposure.

*The Garden of Old-Fashioned Roses.* A formal planting inspired by the plan of the Holly Garden at Williamsburg and providing an appropriate setting for 300 old roses, mostly the cabbage, damask, French and moss varieties of yesteryear. It is the highlight of mid-June.

*The Hybrid Lilac Collection.* A planting of over 300 varieties of hybrid lilacs including many of the newer introductions. Flowering season mid-May.

*The Flowering Crabapples.* 160 forms of flowering crabapples grouped according to habitat. Their early May floral display is rivalled only by their autumn fruit effects.

Arboretum activities are centered in two new buildings. The Memorial Administration Building, erected in 1935, houses the administration offices and information bureau as well as the reference library and herbarium. The library contains a choice collection of rare arboricultural and horticultural works many of which Mr. Morton acquired abroad. There is a very complete collection of modern books, too, dealing with all phases of dendrology, gardening and landscape architecture, and an extensive file of periodicals pertaining to these subjects.

The herbarium collection is confined chiefly to the woody plants of the world which are hardy at the Morton Arboretum, with representative specimens of their flowers, foliage and fruit filed for reference. An exception is the collection of indigenous flora which includes ferns, and herbaceous plants.

The Thornhill Building, completed in 1942 on the site of the Morton home, "Thornhill," appropriately marking the twenty-first anniversary of the founding of the Morton Arboretum, provides ample space and every facility for carrying on the expanding educational program. In addition to a large lecture hall and research library, there are classrooms, exhibition halls, a photographic laboratory and work shop.

The general objectives of the Arboretum follow closely the aims and ideals outlined by Mr. Morton in the original declaration of trust, with special emphasis placed upon popular education, particularly with respect to increasing the general knowledge of trees and shrubs. Research has thus far been confined chiefly to acclimatization studies, and related cultural problems.

The educational program of the Morton Arboretum which is planned to benefit adults and children alike, is accomplished through several media. Organized courses in nature study given throughout the year present a friendly knowledge of the natural sciences. Life histories, habits, associations, folk lore and identification are all considered, with special emphasis placed upon trees, shrubs, wild flowers and ferns. Fungi, birds, mammals and rocks are also covered, however. Courses in adult and junior leadership help teachers, parents, girl scouts, boy scouts, junior foresters and other interested individuals to become proficient in nature study and its instruction. Classes in gardening are offered twice a year and in winter there is a ten weeks' course in home landscaping. These classes are supplemented by special lectures and conducted field trips during the months of May and October. The above services are all offered free of charge. Three well-marked Nature Trails, the "Thornhill," "Forest" and "Evergreen" Trails with their accompanying guide books offer self-instruction in natural history out of doors at all seasons of the year. Publication of the results of experiments with plant materials and other subjects of related interest in its monthly "Bulletin of Popular Information," is another Arboretum service. Subscriptions to the *Bulletin* are one dollar a year.

The Morton Arboretum is a privately endowed educational horticultural foundation

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# The Genus Pieris

David Wilkie*

THE genus Pieris consists of a large number of species; actually there have been over fifty species described but only a few of these are hardy or nearly hardy and in general cultivation; it is of these that these notes are written. The name *Pieris* was founded by D. Don for three Himalayan plants, namely, *formosa, ovalifolia* and *lanceolata* with *formosa* as the type species, the chief characters used by him being the appendages on the stamens. A number of years later they were included under the name of Andromeda for a short period, then other names such as Zenobia, Portuna, Lyonia, Leucothoe and Xolisma were used for certain species. It is quite understandable, therefore, that today there still exists confusion as to what generic name should be given and in catalogues on both sides of the Atlantic two species, *japonica* and *floribunda,* are offered under Andromeda. Most of the species are natives of China but others are found in Formosa, Japan, Indo-China, Himalaya and the North American continent.

All the members of the genus are shrubby, one or two taking on tree form in their native lands, the majority are evergreen and of compact habit and all are handsome in bloom, while such as *P. formosa* and *P. Forrestii* are outstanding in spring with the vivid red of the young foliage. In the following notes all those mentioned are hardy or nearly so with the exception of *P. Forrestii* and *P. lucida* which are on the border line but they will stand in the milder and moister part of the country. The cultivation of Pieris calls for nothing unusual, their most important need being a lime-free soil such as a sandy peat to which leaf soil has been added and a mulch of leaves during most of the year. In the moister and milder districts no shelter is required but in the colder parts where there is drying wind and low rainfall, they profit by having protection from the east and north winds. Shade, too, is sometimes desirable during the hottest time of the day, but not overhead shade where they have the drip from trees.

A species that is very useful for early forcing is *P. floribunda;* if young plants set with flower buds are lifted and potted and placed in a warm house they open well and last a considerable time.

Propagation can be carried out by seed, layers or cuttings; seedlings take a long time before they come into flower and layering is probably the quickest method. If a large number of plants are required, an old plant should be cut down and the stool shoots layered. Several of the species root from half-ripened cuttings placed in a closed frame.

*P. Floribunda* is a native of the southeastern states of America. It is an erect evergreen shrub of twiggy and compact habit, up to 6 feet in height and usually about the same in diameter. The branches are stiff and more erect than its close relative *P. japonica* and the panicles of flowers are also held erect; these panicles, which are terminal, are made up of several racemes, each measuring about 4 inches in length and carrying numerous nodding blooms. The leaves are elliptic to ovate in shape, up to 3½ inches in length and about an inch in width, pointed and narrowing gradually to the stalk, the margins are set with fine teeth and the color is a very deep green above with a paler green beneath. Differing from *P. japonica,* the racemes are held erect and not drooping as in that species, the flowers have pale green calyx lobes, the corolla, urn-shaped with five distinct angles, is pure white and measures about ⅕ of an inch in length. A good garden plant, very free flowering and coming into bloom in April. There is a variety known as var. *elongata* with narrower and longer leaves.

*P. Formosa.* This species is a native of Eastern Himalayas from Nepal to Bhutan and is also found in China. It is a tall grower, erect in habit and sometimes forming a small tree upwards to 20 feet in height. In the spring, *P. formosa* is an outstanding display with the young foliage a vivid red, the coloring often remaining right into summer. The leaves, which are evergreen, measure up to 7 inches in length and 2½ inches in width, pointed, thick in texture, from lance shape to oblong elliptic, slightly concave and finely toothed on the margins. Later in the season the leaves become a deep, shining green on the upper surface and very pale beneath. Like its allies, the leaves are often in tufts at the ends of the shoots. Coming into flower in May, the inflorescences are terminal and consist of several racemes which are partially erect and measure about 6 inches in length. The calyx, which is green, is only about ⅙ of an inch long, with narrow ovate lobes; the corolla measures from ¼ to ⅜ of an inch long, white tinged with pink, urn-shaped, with five short blunt lobes and the stamens included.

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* Mr. David Wilkie is a well-known member of the staff of The Royal Botanic Garden at Edinburgh.

*P. Forrestii* is a native of China and northeast Burma where seed was collected and sent home. It resembles *P. formosa* in many ways but differs in the more slender and pendent habit, narrower leaves which reflex along the stems, and larger and rounder flowers. *Pieris Forrestii* is an erect evergreen shrub up to 6 feet or more in height with long pendent branches on which the leaves reflex; the leaves measure from 2½ to 6 inches in length and up to 1½ inches in breadth, lance to oblong-lance shaped, sharp-pointed, thick in texture, finely toothed, when young a vivid red and later a bright shining green above and pale green beneath. In the early stages of the plant's life the leaves are much broader for their length and the plant does not send off the long pendent shoots that it does when old. The flowers are borne in long terminal panicles made up of several broad racemes which are pendulous. The calyx lobes are white and about ⅕ of an inch long, ovate in shape, the corolla is broad, urn-shaped, ⅓ of an inch long, narrow at the mouth, with five strong angles and five erect short lobes. This species cannot be considered as hardy as *P. floribunda* and *P. japonica,* and requires shelter except in the milder parts where it comes into flower early in the year and is one of the most beautiful of a handsome genus.

*P. Japonica,* as the name implies, is a native of Japan and is one of the best known. An evergreen shrub of compact, bushy habit resembling *P. floribunda,* from which it differs in having pendulous racemes, narrower leaves and in the absence of the bristles on the young wood. The leaves are narrow ovate to narrow obovate, tapering at both ends, finely toothed, a dark, glossy green above and measuring up to 4 inches in length by about ¾ of an inch in width. While the shape of the flower is similar to *P. floribunda,* the racemes are usually longer; in this species they are about 6 inches in length with five short lance-shaped calyx lobes, the corolla is urn-shaped, pure white, narrow at the mouth with five short lobes, and about ¼ of an inch long. It commences to bloom in April and continues into May. There is a form with variegated leaves known as *variegata* or *albo-marginata,* more compact and smaller in size and leaf, which is useful as a variegated shrub, but it flowers very seldom and is only of value for its variegation. At one time there was a dwarf form known as var. *nana,* but it has disappeared from general cultivation.

*P. Lucida.* An evergreen species belonging to the southeastern United States, often referred to under the name of *P. nitida.* A shrub of about 6 feet in height with smooth, angled branches and of looser habit than the other members of the genus. It has thick leathery leaves, narrowly ovate, tapering at both ends, of a deep shining green, almost stalkless and measuring about 3½ inches long by 1½ inches wide, the margins are without teeth but are thickened and slightly decurved. The flowers are produced during June and July in short clusters of 6 to 8 flowers in the axils of the leaves; the calyx lobes are linear, reddish in color and about ⅕ of an inch long; the corolla is white tinged with red, cylindrical, ⅞ of an inch long, urn-shaped and widened at the base with a small opening at the mouth and five tiny erect lobes. Undoubtedly of value in the softer and milder parts but too tender for the colder districts where it only exists.

*P. Mariana.* This is one of the deciduous species and is a native of the eastern United

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# A Lilac Symposium

*Continuing our policy of compiling authoritative information about important horticultural families—as in our Winter, 1947, Magnolia issue—we present herewith a symposium on Lilacs, as they grow in various parts of the United States and Canada.*

## *Lilacs*

### John C. Wister*

The popularity of the common lilac which has been grown in this country since before the days of Washington and Jefferson has led to the planting of great lilac collections in many sections of the country from the Arnold Arboretum on the east to the Arboretum of the University of Washington on the west.

In all of these different plantings the so-called French varieties of the common lilac take the most important place. They are called French hybrids because so many of our finest varieties today have come from the firm of V. Lemoine & Fils of Nancy, France, but earlier work in their improvement was done in Belguim and other parts of the continent. Some of the more recent kinds have been raised in New York, Minnesota, in California and Canada.

The French lilacs give a season of bloom of a week or two in early May in and around Philadelphia, in late May in New England and upper New York state, with corresponding seasons in other parts of the country. The advent of a group of early flowering hybrids now classified by botanists as a hybrid species, *hyacinthiflora,* brought to these gardens a week or two of bloom before any of the common lilacs opened. This early flowering group, therefore, is of the greatest importance.

The first variety of this group to become well known in this country was Lamartine, introduced by Lemoine in 1911. It is a most useful, strong growing variety of soft pinkish lilac color. Lemoine's newer varieties give little variation of color although Louvois and Montesquieu are darker and Necker is pinker. Necker, in fact, fades almost to white, but a new American variety, Scotia, which is much like it, holds its color longer and better. All of these varieties resulted from the combination of *Syringa vulgaris* with *Syringa oblata giraldi.*

In 1917 Wilson found another botanical variety of the species *oblata* in Korea and it was named *dilatata* and brought to this country. It was a long time before gardeners realized that here was a most important plant. Its growth was quite different from *giraldi;* it was broad and well-shaped instead of being leggy. It was even earlier in bloom; in fact it is the earliest of all lilacs and is a most attractive plant at all seasons. Its early foliage is bronzy before turning green. Its autumn foliage turns bronze instead of keeping its green like other lilacs and is not subject to mildew. The distribution of this plant was slow but finally gardeners came to realize its great value.

One plant breeder, Mr. F. L. Skinner of Dropmore, Manitoba, took it up in earnest and about 1935 introduced the first of the hybrid seedlings resulting in crossing this with *vulgaris.* Among these varieties was Assessippi, which is taking its place as one of the greatest of all lilacs, one of the earliest to bloom and most floriferous and most fragrant. It is a well-shaped plant and apparently does not become leggy, although perhaps plants old enough to display this characteristic do not yet exist in many places.

The color of Assessippi is much like that of the Lemoine hybrids, but Pocahontas is much deeper in color and, in the far north where the sun is not so hot, it is said to be as dark as Ludwig Spaeth. Under our conditions in eastern Pennsylvania it is not nearly as dark as its description would indicate but it is still the darkest of the group and valuable for that reason. Other varieties of the group have followed, the latest being Churchill and Laurentian which probably have not yet bloomed outside the garden of the originator, although plants are being grown in several collections in this country.

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* Mr. John C. Wister is Director of the Arthur Hoyt Scott Horticultural Foundation at Swarthmore College, whose work he described in our Spring, 1948, issue.

So much has been written about the French lilacs that it is not necessary to go into much detail here. It should be noted, however, that they also present some variation of season, the earliest being Comte de Montebello, President Lincoln and Marechal Foch. They follow quite closely after Lamartine and others of the Lemoine early hybrid group. The growth and general appearance of the variety Marechal Foch seem to me to indicate that it is a hybrid with the same parentage as Lamartine. It has the same rapid growth and straggly habit. It flowers early, its spike is open and the color pinkish.

Dr. Rehder, who has carefully examined its microscopic botanical structure, states that there is no evidence that it is a hybrid. Therefore, botanically, it must continue to belong to the *vulgaris* group. I am inclined to think that for our garden purposes it and President Lincoln both should be grouped with the early hybrids.†

Among the varieties of the French group, the latest to bloom are Victor Lemoine, Waldeck Rousseau and Duke de Massa. The latest double white variety is Siebold, a rather dwarf grower with deep creamy tinted buds. In the single whites Vestale is earlier than Mont Blanc although the time between the two is not great.

With the many hundreds of varieties being grown there is still a chance for important study concerning the adaptability of these varieties to different parts of the country. I have noted that certain varieties which have been very poor in the Philadelphia area have been magnificent farther north, particularly in Minnesota. These include many of the deep purple varieties such as Danton, Diderot and Pasteur which do not grow well in the east but seem to be strong in the colder climates and have much deeper coloring in more northern latitudes. It will be interesting to see if this will be true of two very beautiful varieties of the late Mr. T. A. Havemeyer, Sarah Sands and Zulu, both of which seem to be poor growers. It remains to be determined whether Mr. Brand's new seedlings which are so magnificent with him will do well in the east and how well the seedlings of Mr. W. B. Clarke of San Jose, California, will do in the east.

The Persian lilacs bloom roughly with the French varieties. They suffer under a bad mixture of names, most plants sold as *S. persica* being *S. chinensis.* This unfortunate botanical name was given by mistake to the hybrid between *persica* and *vulgaris,* which occurred as a natural hybrid in the botanical garden of Rouen late in the 18th century. The name *rothomagensis* is a much more happy choice, and the name Varin, or Varina, which commemorate the name of the director of the garden, is also used for this plant. The true species *persica* is not too strong growing in the east but *chinensis* grows beautifully. It will be interesting to see how the new hybrids of *persica alba* and *oblata dilatata,* raised by Mr. F. L. Skinner, will behave in different parts of the country. Theoretically, these should be stronger growing than *chinensis* and bloom earlier.

Many groups of late flowering hybrids are now in cultivation. Many of these are superior to the late blooming species which have long been known in botanical gardens but only a few of which have found their way into private gardens. Among these species, *Josikaea* and *villosa* are the best known. The little known *Sweginzowii* and *reflexa* are probably better garden plants. Among the hybrid groups the oldest and best known is the *Henryi* group *(Josikaea* x *villosa)* which includes the variety Lutece. Then there is an unnamed group *(Henryi* x *tomentella)* which includes Prairial; the *josiflexa* group *(Josikaea* x *reflexa)* which includes Bellicent and Royalty raised by Miss Preston in Ottawa; the *nanceiana* group *(Henryi* x *Sweginzowii)* including Floreal and Rutilant which, like Lutece and Prairial were raised by Lemoine. The group *Prestoniae (villosa* x *reflexa)* includes many varieties which are much alike. Miss Preston considers the varieties Audrey, Isabella, Jessica, Miran-

*(Continued on Page Thirty-seven)*

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† It should be remembered that there is considerable difference of opinion as to whether the French lilacs are pure selections of Syringa vulgaris or whether they are descended from unrecognized hybrid strains. Syringa oblata was being grown by Lemoine as early as 1878. In a garden as small as Lemoine's it would certainly have been possible for the bees to have made crosses without the knowledge of the owner of the garden. This is a mystery which geneticists may in time clear up.

# *A Longer Lilac Season*

### D. F. CAMERON*

ONE of the most reliable flowering shrubs for Canadian conditions is the common lilac of Central Europe, *Syringa vulgaris* and its garden varieties, generally sold as French hybrid lilacs. With their wide range of colors and attractive foliage they are much appreciated by Canadian gardeners for their beauty, and may be found growing successfully from coast to coast.

Unfortunately, this group of lilacs has a relatively short blooming season. Among other faults it has a tendency to legginess and is susceptible to mildew and certain insect pests.

In order to extend the blooming season of the lilac and to obtain some improvement of form, the late Dr. W. T. Macoun, former Dominion Horticulturist, decided to cross some of the late blooming species which had proven themselves hardy at Ottawa, where winter temperatures of 20 or 30 degrees below zero frequently occur. This work was started in 1920 by Miss Isabella Preston.

*Syringa villosa,* a very hardy Chinese species, was chosen as the female parent, and *Syringa reflexa,* the Nodding Lilac, a less hardy species with narrow dropping panicles of rosy-pink flowers, as the male parent. From this cross about 250 seedlings were grown, some of which flowered in 1924.

The hybrid origin of these seedlings was noticeable and there were many variations within the lot, especially in the size of the inflorescence, a few being quite small, but the majority having much larger panicles than either parent, with a free, open-branching habit.

In color they varied from very pale pink through pinkish-lilac to very deep lilac, in most cases the color of the buds being somewhat darker. The plants themselves differed from their parents and from other existing lilacs in many respects. They grew vigorously with less tendency to legginess as new branches continued to grow from near the ground level. The bushes had a round-topped shape and the clean but coarse foliage was attractive. The blooming period was that of the *S. villosa* parent, and most of them came into bloom just after the ordinary lilacs faded, thus prolonging the lilac season for a week or ten days.

Other desirable characteristics were their extreme hardiness, the unusual pink color of the bloom and their annual floriferous habit, even when growing in poor soil. In addition, they appeared to be resistant to disease and insect pests.

The few undesirable characteristics were the brittleness of the young branches in very stormy weather, lack of fragrance in most varieties and the large size of the bush, which reaches a height of ten feet, covering an area of 12 or 15 feet. For this reason they are hardly suitable for planting in small gardens, but they are admiraby suited for use as specimen plants or in groups on large lawns or park areas.

It is of interest that the reciprocal cross *(S. reflexa* x *S. villosa)* produced only one seedling which was not considered worthy of further propagation.

About this time, Mrs. Susan Delano McKelvey, the well-known authority on the lilac, was engaged in the preparation of her monograph, "The Lilac." In 1927 she visited the experimental farm at Ottawa, and after seeing the new race of lilacs in bloom, decided to name them *Syringa* x *Prestoniae,* in honor of their originator. She also named and described in her monograph, two varieties of *S.* x *Prestoniae* which represented the extreme types of variation. These two varieties were "W. T. Mocoun" and "Isabella." Later, several other varieties were named, the names selected being those of Shakespeare's heroines, but of these named varieties and of the unnamed seedlings, many have since been discarded as unsuitable, and only the best types kept for propagation.

The following is a list of the best *Prestoniae* varieties which have been selected for distribution to commercial nurserymen. The hardiness of these lilacs has been proven by their very satisfactory performance at Brandon and Morden in Manitoba and at Beaverlodge in the Peace River district of Alberta. Several varieties of these *Prestoniae* lilacs have been sent to the Royal Botanic Gardens at Kew and Edinburgh and a number are growing in private gardens throughout the British Isles and United States where they are reported to be most satisfactory.

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* Mr. D. F. Cameron is a member of the Division of Horticulture at the Central Experimental Farm, Ottawa, Ontario.

In the following descriptions the colors spelled with capitals refer to Ridgway's "Colour Standards and Colour Nomenclature," and apply to the inner part of the open bloom, the color of the unopened buds and of the outer portions of the flower usually being of a darker shade.

*Light Colored:*

*Audrey:* Flower panicles nine inches long, nine inches wide, full but loosely arranged, broadest at two-thirds of height, with long lower branches and drooping tips. Purplish-Lilac fading to almost white. Makes quite a large bush.

*Celia:* Panicles large, loose, 10½ inches long, nine inches wide, drooping at the tips, with regular even branching habit, frequently with two lateral panicles. Pale Vinaceous Lilac. Slight, pleasant fragrance. Very showy and floriferous. One of the latest.

*Desdemona:* Panicles 6¾ inches long, 7½ inches wide, tapering to the semi-pendulous tips; branching habit wide and loose. Palest Light Pinkish-Lilac. Late blooming. One of the best.

*Ursula:* Panicles large, 11½ inches long, seven inches wide, cone-shaped, loose and graceful, widest at two-thirds of height. White, faintly tinged with Pale Lilac. Slight pleasant odor. Blooms well. Similar to *Virgilia*, but taller.

*Virgilia:* Panicles 8½ inches long, nine inches wide, spreading and graceful; shape—from broad bunch to shortish cone; tips drooping, side branches long and close. Pale Lilac.

*Dark Colored:*

*Alice:* Panicles 9½ inches long, six inches wide, tall, cone-shaped, tips drooping. Pale Lilac to Purplish-Lilac. One of the darkest varieties, and one of the last two in bloom.

*Elinor:* Panicles 7½ inches long, 5¾ inches wide; long, cone-shaped, with a few short

*"Fountain" (S. reflexa x S. Sweginzowii) x S. reflexa*

*"Fountain." Close-up view showing the long, pendulous flower clusters*

branches. The panicles appear narrow and have the drooping habit of the *S. reflexa* parent. Very Pale Lobelia Violet. A prolific bloomer. One of the best dark colored varieties.

*Jessica:* Panicles large, 10 inches long, 11 inches wide, conical shape tapering to tips, with open branching habit. Terminal panicles often have four laterals. Argyle Purple. One of the darkest varieties, blooms late and has a pleasant fragrance.

Two worthwhile varieties have been obtained from open-pollinated seed of the *Prestoniae* lilacs. One of these is "Romeo," an upright growing shrub having decidedly pink flowers with dark, reddish stems. The other is "Oberon," also upright in habit, with large, erect panicles of pale pink flowers well distributed over the plant. From a distance the flowers appear white.

Another cross made in 1920 was *S. Josikaea* x *S. reflexa.* It was named *S.* x *josiflexa,* and the only plant obtained from this cross was given the variety name "Guinevere." Its large panicles of Purplish-Lilac flowers hold their color better than most lilacs.

In 1924 open pollinated seeds of Guinevere were sown, and four of the resulting seedlings were selected for distribution. Three of these are distinctly pink, and were named "Bellicent," "Enid" and "Lynette." The fourth, "Kim," is purplish.

*Bellicent* is the most ornamental of this group, and grows up to seven or eight feet tall, with fine stems and branches. It has a light, graceful, attractive habit. The panicles are five to six inches long, four inches wide, drooping, with many long, leafy laterals of bloom. Pale Rhodonite-Pink. Very distinctive. Was awarded the First Class Certificate of the Royal Horticultural Society in 1946.

*Enid* has an upright habit of growth and a very attractive appearance. Panicles are six to nine inches long, 6½ inches wide, usually with two lateral clusters. A good shade of pink.

*Lynette,* a sister seedling of Bellicent, but

*(Continued on Page Thirty-six)*

# *The Breeding of Lilacs*

### WALTER B. CLARKE*

FROM the time the Clarke Nursery was started, January 1, 1917, we always paid much attention to lilacs and soon had assembled a very good collection. For about thirty years we have been continually adding new varieties and at the same time discarding all except what we consider the very best so as to keep the number of kinds within reasonable limits. It soon became evident that while there were altogether too many varieties in certain color tones there was an extreme lack, amounting in some cases to an almost total absence of good varieties in others. Among the most striking deficiencies it can be noted that until very recently there were very few good blues and practically nothing of any value in genuine pinks. Also, there was an extreme shortage in dark purple doubles which, in fact, still exists. This situation can be amply corroborated by reference to the brochure "Lilacs for America," published in April, 1942.†

Mainly in an effort to see if something could be done toward remedying the above deficiencies, as well as being motivated by plain curiosity, I decided to take up lilac breeding and gathered the first seed for this purpose in 1932. No records were kept but it is quite probable that this seed was gathered from the best single and double varieties in our collection. From this lot of seed the first plant tagged for observation was afterward named Kate Sessions and introduced in 1943. From this same lot I also got Alice Eastwood, Blue Hyacinth and Pink Cloud. During the next few years many seedlings were raised, always from the finest known varieties, but no specific records were kept.

In 1937 two lots of seed were gathered. One was entirely from Mme. F. Morel which at that time I regarded (and still do) as one of the very finest French varieties and seemed to possess some of the qualities that I wanted and hoped would be transmitted to its offspring. The other lot was taken entirely from our best miscellaneous doubles which, however, were not kept separate. This seed yielded our two patented varieties, Esther Staley, a single pink seedling of Mme. F. Morel, and Clarke's Giant, a single sky-blue from some unknown double.

In 1938 I made a horticultural trip to Europe and fortunately was able to time it so that I could visit the famous Lemoine nursery at Nancy, France. At that time I was hesitating whether to continue lilac breeding or not but from what I saw there decided that it would be well to continue, so in fall 1938 seed was again gathered and, commencing with that lot, more specific records were kept, so that from then on the parentage of every seedling raised is definitely known. Seed has been gathered every year since.

Very few seedlings receive any further attention in spite of the fact that a great many seem to be fully as good as any known named varieties. However, for me that is not enough, as my guiding principle has always been that in order to receive any serious consideration a seedling must be either better than, or different from any lilac previously produced anywhere in the world. Those that can apparently qualify under these requirements and show special promise are given breeding numbers and individual records of observations made on them are kept for from four to eight years. By that time most have been discarded for various reasons and only a minute percentage survive to be named and introduced.

A constant aim has been to increase the size of the individual flowers. Efforts along this line have been quite successful because while only a few years back those with individual flowers one inch across were usually described as "huge," "enormous," etc., it now is quite common to find them 1¼ inches wide with a maximum to date of a full 1½ inches. There is no reason to believe that the possible maximum has yet been obtained. Furthermore, I have never lost sight of my original aim and am still trying to get deeper blues, darker doubles and complete "breaks" in form or color. The hope of getting pure pinks has been definitely attained in two varieties,

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* Mr. Walter B. Clarke, no stranger to the columns of the BULLETIN, is one of the West Coast's best-known nurserymen. San Jose, California, is his home.

† Published by the Arthur Hoyt Scott Horticultural Foundation, Swarthmore College, Swarthmore, Pa.

Esther Staley (patented) and Pink Spray (patent applied for).

In closing I think as a matter of record it might be well to give a complete list of the 19 varieties which have been named as a result of 15 years' work and registered with the American Association of Nurserymen:

| | |
|---|---|
| Alice Eastwood | Double, mauve pink |
| Blue Hyacinth | Single, blue |
| Clarke's Giant | Single, sky blue |
| Cora Brandt | Double, white |
| Earliest | Single, lilac |
| Early Double White | |
| Esther Staley | Single, pink |
| Kate Sessions | Single, blue |
| Missimo | Single, cyclamen purple |
| Mood Indigo | Single, dark purple |
| Mountain Haze | Single, bluish purple |
| Pink Cloud | Single, pink |
| Pink Spray | Single, pink |
| Purple Glory | Single, dark ruddy purple |
| Purple Heart | Single, deep purple |
| Splendor | Double, purplish blue |
| Summer Skies | Single, sky blue |
| Sunset | Double, rose |
| White Hyacinth | Single, white |

Of the above, 11 have been introduced and the others will be within the next two or three years, but not necessarily by us, as some have been assigned exclusively or sold outright to other nurserymen.

This breeding work has been extremely interesting, in fact, fascinating, and while I have passed the proverbial "three score and ten" it is altogether likely that I will continue it as long as I am physically able to do so.

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## *Hybrid Lilacs*

F. L. SKINNER*

TO MOST people, hybrid lilacs mean the named varieties of the common lilac, *Syringa vulgaris,* most of which have been raised by the French family Lemoine and have little of the "blood" of any other species than *S. vulgaris* in them. These so-called hybrids are very beautiful but unfortunately there are many places on this continent where they do not give of their best and their flowering season, even where they do well, is rather short. In some parts of Western Canada these better forms of the common lilac are liable to injury during our periodic hard winters and occasionally late spring frosts destroy their flower buds even as far south as Colorado.

As one goes south these common lilacs do not thrive as well as they do in some parts of Canada and the New England states where climatic conditions are more to their liking. At Washington, D. C., many lilacs look even less thrifty than they do with us in northern Manitoba, where hard winters are apt to kill them back every few years, and at Swarthmore, Pennsylvania, Mr. Wister told me that some of the Lemoine varieties do not make nearly so nice a show as he has seen these same varieties do in central New York State.

Until 25 years ago little was done towards raising lilacs better suited to the climatic conditions of this continent other than by growing seedlings of some of the best varieties of the common lilac; in this the work of Mr. John Dunbar stands out pre-eminent.

In the autumn of 1918 I visited the Arnold Arboretum and the late Professor Sargent gave me a few one-inch-high seedlings *Syringa oblata* var. *dilatata* and *S. velutina,* both grown from seed collected by Wilson in the Diamond Mountains of Korea in 1917. Though the Diamond Mountains lie on latitude 38 north and I live just north of latitude 51 and at an elevation of 1800 feet, still these Korean lilacs survived uninjured a winter that severely damaged many of my lilacs of European origin and have since proved as hardy as any of our native shrubs.

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* Mr. F. L. Skinner, M.B.E., L.L.D., is proprietor of the Manitoba Hardy Plant Nursery at Dropmore, Manitoba.

In 1921 *Syringa dilatata* flowered in Canada for the first time and as I had a few flowers on some of the Lemoine varieties I succeeded in crossing them with *S. dilatata*. In doing so I did not expect to get varieties that would compare with Lemoine's, but I did hope to get lilacs that would be better suited to our climate. In this I was not disappointed; some of these seedlings flowered just 18 months after the seeds had germinated under glass and from a hedge row of these seedlings I selected five that I considered were at least as good as Charles X and much better suited for our climate than that variety. Moreover some of them had deep purple foliage in autumn and, interesting to relate, that original row of *Syringa vulgaris* x *dilatata* has not yet started to sucker.

During the severe depression that caught rural western Canada in the late 1920's I had other things to think of than breeding new lilacs and little was done with *Syringa dilatata* until in 1940 the Morton Arboretum reported favorably on the first five selections of these hybrids.

Since then many new combinations have been made at Dropmore; pollen of *S. persica* and *S. pinnatifolia* has been used on some of original *dilatata* hybrids and some of them have been bred back to the best of Lemoine's varieties and we now have so many really first class varieties that it is hard to decide which to name and which to discard.

In the *villosa* section of *Syringa* few hybrids have been raised in Europe other than those raised between *S. villosa* and *S. Josikaea* by the Lemoines. Probably the fact that neither *S. reflexa* nor *S. Sweginzowii* have been hardy in any but the mildest parts of Canada is responsible for the considerable number of hybrids in this section that have been raised in Canada.

Miss Preston of the Central Experimental Farm at Ottawa and I set out to raise hybrids of *Syringa reflexa* about the same time. Miss Preston, however, lived near enough to Boston to be able to visit the Arnold Arboretum and collect fresh pollen of *S. reflexa* while I had to rely on dried pollen sent me by Mr. Judd, with the result that her work bore fruit before mine did. These first hybrids of Miss Preston's gave rise to varieties with large open panicles of flowers in a wide range of mauve and lilac shades while mine had smaller panicles closely set with flowers in shades of pale to deep rose.

The Dominion Experimental Station at Morden, Manitoba carried Miss Preston's work a step further and secured a range of color from white through pink to wine-red and royal purple, while the best in the second generation of my hybrids has been in the rose shades.

Unfortunately, Miss Preston made the mistake of naming too many of her hybrids which has militated against their gaining the popularity they deserve. At Morden only a few were named and of these Coral, Redwine, and Royalty will be standards of excellence for some time to come; their names denote their color. Hiawatha, a hybrid of mine with thick-set spikes of rose-colored flowers, has already found favor with Dutch nurserymen and is probably the best of the first crosses of its type. Donald Wyman, the best to date of the second generation of those with rose-colored flowers, is deeper in color and fades less than any other of the *villosa* hybrids at the Arnold Arboretum.

At the Arnold Arboretum a natural cross between *S. pinnatifolia* and *S. oblata* var. *giraldi* has given rise to a nice, quite fragrant, white flowered form that I have called (with the consent of Dr. Sax) Wm. Judd in honor of the man who did so much for the Arnold Arboretum during his lifetime. This may have value both for forcing and further breeding work.

Dr. Sax, working at the Arnold Arboretum, has succeeded in raising hybrids between *S. pubescens* and *S. persica; S. vulgaris* and *S. persica laciniata* and between *S. pinnatifolia* and *S. persica laciniata*. I have not yet seen any of these in bloom but the latter is well worth growing for the beauty of its finely cut foliage.

Where will all this hybridization of the Syringa family take us? Is it likely to give us larger or more beautiful flowers than those now obtainable in the French lilacs, and, if not what advantage is there in increasing the number of named forms in a family that some gardeners contend already contains too many named varieties?

Personally I think there is a place, on this continent, for the *villosa* hybrids and that with the range of form and color now available, we can easily accommodate from twenty-five to thirty named varieties.

In the *vulgaris* section, the work that has been done at the Arnold Arboretum and at Dropmore shows that *S. oblata, oblata* var. *dilatata, persica, pinnatifolia, pubescens, velutina,* and *vulgaris* will all interbreed to a certain extent and if breeding work with these species is carried on in a large enough way we may expect to eventually get lilacs better suited to many parts of this continent than those now available; lilacs that will bloom early without suffering injury from spring frosts; lilacs that will bloom much later than any form of the common lilac now does; lilacs with clearer blue and red shades with upright spikes on which the individual flowers are wide enough spaced to show their individual form, and lilacs that can be cultivated with success both farther north and farther south than they can be at present.

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## *The Spokane Lilac Festival*

Linnabelle Kinney*

THE SPOKANE lilac festival is a well-established annual event, as indicated by the enthusiasm of this year. The lilac bridge luncheon at the Davenport Hotel was attended by 250 women and the lilac parade of ninety-six units, reviewed by 50,000 spectators, proved to be the longest non-military parade ever staged in the city.

But the unique part of this festival was the lilac show where lilacs truly predominated. A rich panorama of exquisitely arranged lilacs and spring flowers filled the main floor of the Civic Building with their beauty and perfume. Patterned to display the lilac to its utmost were colored niches, each with its own distinctive arrangement. The walls of the room were lined with furniture settings accented by lilac arrangements.

On the balcony crowds gathered to examine the display of specimens where lilacs of all varieties were exhibited according to classification. There were species and hybrids which included *Syringa chinensis,* the Persian hybrid, and French, which included over fifty named varieties. Vestale, the earliest single white and a loosely formed panicle in the shape of two tall spires, drew much attention. Mme. Lemoine was a popular double white. In the single blues Decaisne and the new Firmament brought enthusiastic comment as did Alphonse Lavallee, a double blue characterized by its pointed petals. Among the pinks honors always go to macrostachya and Lucie Baltet, a real salmon pink, and Mme. Francisque Morel, the largest single red and a variety which was identified last year received a high rating.

A group of trained experts stood by throughout the day to help identify lilacs for exhibitors and assist in selecting varieties according to form, color and habit of growth. It is safe to say that many new lilac gardens were born as a result of this show.

Anyone who visited the show must have been convinced that "Spokane's Best When Lilac Drest."

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* Miss Linnabelle Kinney was publicity chairman for the Spokane Lilac Festival, at which post she did an outstanding piece of work.

# *Lilacs at Cedar Hill Nursery*

### JOHN HERGENREDER*

CEDAR Hill Nursery came into existence at the turn of the present century. The late Theodore A. Havemeyer, a born horticulturist, became acquainted with Victor Lemoine of Nancy, France, years earlier and from this acquaintance stemmed his first efforts at hybridization of lilacs at Brookville. Mr. Havemeyer's efforts were very successful and in these short years he was able to perfect such worthwhile varieties as Sarah Sands (a single, incurved deep purple), Glory (a single reddish purple, the florets of which exceed the size of a fifty-cent piece), White Swan (a clear, large flowered single white), Prof. E. H. Wilson (a pure double white), Mrs. W. E. Marshall, Lady Lindsay, Moonlight, True Blue, to name only a few. Unfortunately his successes were cut short by illness and during the four remaining years of his life he was unable to do any more work at his chosen field. Had Providence been more considerate the lilac lists today would contain many more outstanding varieties, as at the time of his death there were several hundred seedlings under trial. Most of these, still unnamed, are part of a memorial planting of six acres which includes all varieties which he acquired, propagated and hybridized. Our catalogue still lists 160 varieties. We now propagate only those varieties of which our stock becomes depleted.

There are divergent opinions as to the best methods of propagation. Some authorities insist that growing from cuttings is the only way to propagate. Others still prefer grafting on California privet with careful deep planting to get them on their own roots in two years. We have used both methods and have found that each has its own merits. Propagation by cuttings in early June requires bottom heat in spite of overhead temperatures. The greatest argument in favor of grafting is that it can be done in the winter months when outside work is least pressing. The saddle graft is usually best if the scions are of pencil thickness since the callusing at both ends will more readily produce rootlets than any other form of grafting. Some varieties of lilacs root easily by either cutting or grafting while others resist either method. This no doubt is inherent to their composition of parentage. It has been observed that these varieties which are good growers propagate reasonably well, while cuttings from slow, sparsely growing plants are more difficult to root even under the most ideal conditions.

All flowering trees and shrubs are beautiful and have their place in a well-planned landscape, but the lilac is the outstanding shrub as it gives a full month of beauty from the time the buds show color until the last petals have fallen. Our season lasts from eight to ten weeks beginning with the early hybrids (Turgot, Lamartine, Catinat, Claude Bernard) and followed by the hybrids commonly called the French lilacs, the late hybrids and finally the species ending in late June or early July with *pekinensis* and *japonica*. A late frost sometimes does considerable damage to the early blooms but fortunately this is the exception rather than the rule.

Lilacs will thrive in a wide range of soil conditions but will not grow in wet, undrained locations. They are moderate in their demands. A lime-sulphur or scale-oil spray in early spring against the oyster shell scale is about all they require. The control of the borer is more difficult than would appear in advertisements of control remedies, and periodical inspections and application of a preparation designed to combat these pests are necessary. A liberal dressing of fresh barn manure in the fall after the ground is frozen or bone meal and an organic mulch will also pay dividends. If possible, faded blossoms should be removed as soon as possible to prevent seed formation at the expense of next year's flowers. Lilacs tend to grow upwards rather than spread out and soon become unsightly unless corrected by cutting the uppermost flower thyrsus when in full bloom to a lower lateral branch. This will develop next year's blooms, will keep the plant in the proper or desired shape, will serve the pruning need of the bush and will reward the owner for doing it at the proper time.

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* Mr. John Hergenreder is superintendent of Cedar Hill Nursery, Brookville, Long Island, New York.

## *Lilac Time*

C. W. Caldwell*

AMERICA has a soft spot in its heart for the lilac for, while it is not a native of this country, it early became a resident of this country so that today, many of us have or remember plantings around our homes. Most of these, of course, are of the common, yet very beautiful, purple or white variety. Occasionally in home plantings, we see a double-flowered one or possibly a lovely, lacy Persian. All of these are well worth having no one will deny. But lovely as are these varieties, how many of us know that in addition to these are literally hundreds and hundreds of other varieties. Those who think that purple and white is the range of colors in which lilacs are found will be amazed to learn that they also come tinted in pink, blue, reddish purple and cream. Each of these, in turn, is found in a variety of forms, singles and doubles, large spikes and small, dense heads of flowers and loose lacy forms—every one more stunning than the next.

Again for those whose experience with this lovely shrub is confined to his enjoyment or remembrance of a single bush or a small home planting, there remains the experience of seeing literally acres of these varieties in mass display.

Such is the never-to-be-forgotten experience of the thousands of persons who visit beautiful Lilacia Park in Lombard, Illinois, each year, for here are acres and acres of breath-taking beauty.

Lilacia Park started as a man's hobby. That man, William Plum, as a seventeen-year-old boy, served as a volunteer telegrapher under Gen. George R. Thomas in the Civil War. After the war he worked his way through Yale and in 1867 he married Helen Maria Williams. Mr. and Mrs. Plum chose the West as their home and Lombard as their home in the West. The house which they built is still standing and serves as the village library.

After his retirement Colonel and Mrs. Plum traveled extensively. In Nancy, France, they visited the Lemoine lilac gardens named for M. Victor Lemoine, the famous lilac hybridizer. This impressed the Plums so deeply that, as a result, with two lilacs which they brought back from France, they started their own garden which was later to be willed to the village and which now, with certain additions, is the world famous Lilacia Park.

The Park now boasts approximately 1500 bushes in some 300 varieties in the Park proper and several hundred more in the nursery. This year certain new varieties are being added from other collections. In addition to the lilacs some 10,000 tulips in beds and borders and some 5000 pansies all blooming at the same time as the lilacs add beauty to this fairyland. The Park proper covers some nine acres of ground with winding paths, open meadows and a lovely, rock-rimmed pool.

Lombard is located roughly fifteen miles west of Chicago and may be reached by excellent roads, by steam or electric train. The Park itself is located right in the center of the village.

Each spring, in May, Lombard welcomes tens of thousands of visitors from all states of the Union and from many foreign countries. These visitors, the village residents, the banners and the blooms all add up to a festival—a visit to which will never be forgotten.

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* Mr. C. W. Caldwell is a commissioner of the Lombard Park District, Lombard, Illinois.

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# Azalea Time in the National Arboretum

MRS. O. B. THORGRIMSON*

A PACKET of seed in the hands of a magician has produced a scene of indescribable beauty in the National Arboretum, Washington, D. C. Imagine an easy sloping hillside, dropping down to a ravine, with great oaks over a hundred feet high, beneath which are thousands of azaleas of all colors, the greater portion in full bloom. Fairylike dogwood *(Cornus florida)* covered with white blossoms intermingled among the azaleas and glimpses of blue sky overhead completed the picture. Little woodpeckers were seen running up the old tree trunks and the call of the brown thrasher could be heard in the distance.

The number of azaleas planted in this area of the Arboretum was variously estimated by our visiting party as anywhere from one hundred thousand to double that number. Mr. B. Y. Morrison, who serves among his many other duties, as acting director of the Arboretum, modestly admitted the number to be nearer sixty-five thousand with five or six thousand more to be planted as soon as released from inspection.

At the foot of the ravine, great piles of bags of peat were placed to be used in planting the new azaleas—a gift of The Holland Plant Growers' Association.

This great azalea planting covers an area of some eight acres, and has a sandy soil in which the leaves of hardwoods, for many generations, has been incorporated, giving perfect soil and drainage conditions.

This planting at the National Arboretum represents the basic selections from a project developed in the Division of Plant Exploration and Introduction. The project there was the creation of a race or races of winter-hardy azaleas that would have the widest range of colors and blooming seasons possible under the local climatic conditions. Winter temperatures often fall below zero and summer temperatures frequently rise above 100° F., which, with frequent summer storms, gives a climate similar to but somewhat more rigorous than that of central Japan, where many of the species of the Obtusum subseries are native.

The Japanese species of azalea now known as *Rhododendron indicum* Sweet, *R. mucronatum* G. Don (and its color variants), *R. obtusum* Planchon (and its garden forms, the Kurume azaleas), *R. Kaempferi* Planchon, *R. yedoense* var. *poukhanense Nakai,* and the mongrel race of Indian azaleas common in southern gardens and much hardier to winter cold than is commonly believed, have been the basis of the work.

As time goes on, a limited number of the best of the clones selected will be released from the Division, in addition to those that have already been sent out to arboretums and the trade.

Another hope entertained in this project was the lengthening of the blooming season, which normally lasts only two or three weeks. Varieties have now been developed that bloom earlier in the spring and others that extend the season well into the summer.

Then, too, the color, size and form of flowers have been improved. Some new breaks in color have appeared.

These new and beautiful plants now blooming in the azalea section of the National Arboretum are the result of fifteen to twenty years' work. Starting with hybrid seeds, carefully developed from the best of the known species and hybrids, over sixty thousand seedlings were grown. When the plants were four years old, flowers began to appear and in another four years the culling process began. About five hundred plants were selected for propagation and those so propagated, when large enough, were planted directly from the flats in blocks in the azalea area of the Arboretum. A color scheme was adhered to, with plenty of masses of white flowered varieties and great masses of green foliage of the later blooming varieties interspersed, to form a perfect blend

*(Continued on Page Forty)*

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* Mrs. O. B. Thorgrimson, member of the BULLETIN'S editorial board, will be remembered as author of two fine articles on Magnolias in our Winter and Spring issues.

# The Arboretum Bulletin

Vol. XI, No. 2 Seattle, Wash. Summer, 1948

ARBORETUM FOUNDATION
OFFICE HOURS
9 a. m. to 4:30 p. m.
Monday through Friday
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## *Special Notice*

To keep memberships in the Arboretum Foundation in good standing, dues should be paid during the month payable. Active memberships more than three months in arrears and previously established $2 memberships more than thirty days in arrears will be dropped and The Bulletin will be discontinued.

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University of Washington Arboretum
Seattle 5, Washington

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All memberships are non-assessable.

In May, just after the Rhododendron Show, the Arboretum Foundation arranged and sponsored a Lilac Show at the Bon Marche in downtown Seattle. The entire chinaware department of the store was cleared for the display of many fine types of this flower. More than 7000 persons visited the show. In charge was Mrs. Eva Scott Simms.

# Notes and Comment

We note with interest that an organization known as "Friends of the Arnold Arboretum" has been formed, to enable interested persons to subscribe to the work in horticulture being carried on at that now famous garden.

The pattern of the organization follows somewhat the lines of the Arboretum Foundation. Memberships range from $10 to $100, the latter amount being set for patrons.

* * *

Another interesting publication has brought us an insight into the organizational work sponsoring another well-known public garden, this time the Santa Barbara Botanic Garden in California.

Membership in that garden's association ranges from $5 for associate members and $10 for actives, to $100 for associate fellows, $250 for fellows, $500 for associate patrons, and $1000 or more, or gifts of equivalent value for life members.

* * *

The month of May saw the dedication of two important new plantings in the Arboretum. First on the calendar was the Garrett Memorial, the gift of the Seattle Garden Club, in memory of one of its earliest and staunchest members, the late Mrs. Edward Garrett. Located near the Glen, and overlooking a section of Azalea Way, the garden includes R. Loders White, R. *mucronatum*, R. *mucronatum sekidera*, R. *orbiculare, Mahonia nervosa, Mahonia aquifolum,* and *Gaultheria shallon.*

The second is the gift of the Mercer Island Garden Club, and is located in the Montlake section adjacent to the site of the proposed Museum of History and Industry. Named in honor of Mrs. Grace Fordyce, the club's founder and a one-time member of the Foundation's board of directors, the planting includes various Japanese flowering fruit trees—apricots, peaches, almonds and others.

* * *

Brian O. Mulligan, Arboretum director, has not confined his scholarly writings to our Bulletin. Two articles have found their way

*(Continued on Page Thirty-nine)*

# Report of Third Annual Rhododendron Show

Donald G. Graham, *General Chairman*

THE Third Annual Rhododendron Show was held in the University Arboretum at the north end of the Madison Street playfield on May 15th and 16th. Two tents were used, one 60 by 150 feet, the other 25 by 70 feet. Because of the increased tentage the exhibits were displayed to better advantage. More plants and flowers were entered and a very outstanding collection of flower arrangements was featured.

Because of threatening weather and a heavy rain late Sunday, the attendance this year was not quite as large as last year.

The dates for this year's show were about right for the bulk of the mid-season rhododendron hybrids. However, this would not ordinarily be true since spring this year was about three weeks late.

The trophy for the best mass planting, Class 1, went to Clarence Prentice of Prentice Nurseries, Seattle. This was a very spectacular exhibit approximately 40 feet long, using weathered fencing as a background. The other mass planting exhibits were also outstanding, particularly from the standpoint of horticultural merit of the second and third prize ribbon winners, and the arrangement effect of the fourth prize ribbon winner.

The judges for the Class 1 mass planting exhibits were Mr. O. B. Thorgrimson, Seattle, Washington; Mr. William Hansen and Mr. H. J. Slonecker, both of Portland, Oregon. For the cut flower division the pudges were Mr. Theodore Van Veen, Mr. John Henny, president of the American Rhododendron Society, and Mr. Brian O. Mulligan, director of the University of Washington Arboretum.

The trophy for the best mass planting, Class 1 exhibit, conisted of a large sterling silver cup. This was donated by Friedlander & Sons.

The show was accredited by the American Rhododendron Society.

Of particular interest to the members of the Arboretum Foundation and of the general public was the 30-foot long, non-competitive mass exhibit, entered by the University of Washington Arboretum.

This included a group of pale pink to peach colored hybrids of *R. Fortunei* at one side, with the soft yellow Butterfly adjacent; the bright rose-red Sir Henry Havelock in the center, and young plants of Goldsworth Pink in the foreground, with a broad edging of delicate pink Kurume-type azaleas along the front. Young birch trees were used as a background and two tall flowering specimens of the Silverbell tree *(Nalesia monticola)* were conspicuous.

A new departure was the instructive exhibit set up on tables in the center of the larger tent by Mr. Carol Wieting and his students of the Broadway-Edison Technical School horticultural class. This showed living examples of the various methods of propagating rhododendrons, and also samples of the pests which attack rhododendrons, with the means of control indicated. The clear labeling contributed much to the value and success of this popular demonstration.

I desire to specifically mention the donation of three large billboards by Foster & Kleiser which carried a large poster about the show for two weeks prior to May 15th. Also, the donation of a considerable quantity of cedar lumber by the Nettleton Lumber Company.

Again the Buildings and Grounds Department of the University of Washington, through the fine cooperation of Mr. Charles May, performed yeoman service in the installation of water and lighting facilities, the construction of tables for carrying the exhibits, and the construction of the borders for the mass exhibits.

The Seattle Park Board allowed the use of the fieldhouse and the temporary use of the playfield for the holding of the show.

The bulk of the credit should go to Mrs. Stanley Sayres, co-chairman of the show, for organizing the committees, supervising the preparations for the show, and the staging.

She, of course, operated through very efficient committee chairmen who were:

Classification: Mr. Brian O. Mulligan.

Registration: Mrs. Loren Grinstead.

Staging: Mrs. Brian O. Mulligan.

Amateur Exhibits: Mrs. Henry C. Isaacson.

Placement: Mrs. Louis C. Oulmonn, assisted by Mrs. W. W. Sayer, Mrs. Albert Johnson and Mrs. H. J. Kleinhans.

Flower Arrangements: Mrs. Burton J. Wheelon, assisted by Mrs. Henry C. Field, Mrs. Wendell Brazeau and Miss Noel Watson.

Tickets: Mrs. Carl M. Ballard.

Hostesses: Mrs. Charles T. Jordan and Mrs. John M. Blackford.

Information Booth: Mrs. J. Swift Baker.

Membership: Mrs. Frank Preston.

Publicity: Mr. Milo Ryan, assisted by Mrs. Frank Calvert, Jr., and Mrs. Humber Fotheringham.

Posters: Mrs. John L. Converse.

Receiving: Mrs. F. G. Raines.

Advisory Committee: Mrs. Arthur J. Krauss and Mrs. Carl M. Ballard.

Backgrounds: Mrs. James W. Wylie.

Commercial Exhibits: Mr. Lester E. Brandt.

An all-girl orchestra of forty musicians, under the direction of Miss Rachel Swarner, played in the adjacent park on Sunday afternoon, but their program was unfortunately interrupted by the rain. The orchestra was provided as a contribution to the success of the show, by the American Federation of Musicians, Local 76, Mr. Harry Reed, local president.

Acknowledgment should also go to the Western Printing Company for supplying the tickets and other incidental printing.

Again thanks is acknowledged to Mr. Brian O. Mulligan, director of the University of Washington Arboretum, and to his assistant, Mr. Robert J. Hansen, and the staff, without whose assistance the show could not have been staged.

The show this year, according to the consensus of those who saw it, was considerably more outstanding than either of the two previous shows. The two main purposes of holding the show are: First, to acquaint the general public with the progress in the development, growth and use of rhododendrons in the Pacific Northwest, and second, to bring home to the people of this area the worth and asset value of the University of Washington Arboretum. It is believed both of these purposes were usefully and effectively served. The expense of the show and the countless hours of labor of the committee chairmen are justified if the gardens of this area are enriched by the more general use of outstanding rhododendrons, and if the people who saw the show have a greater appreciation of the University of Washington Arboretum and its possibilities as a cultural and aesthetic asset of the Pacific Northwest.

The following awards were made by the judges:

Class 1:

Mass plant exhibit rhododendrons or azaleas or both, arranged for effect; other plant material included, provided rhododendrons or azaleas predominated: First prize, Mr. Clarence Prentice, Prentice Nursery & Decorating Company, 9252 East Marginal Way, Seattle; second prize, Mr. Lester E. Brandt, 711 7th Ave. S. W., Puyallup, Washington; third prize, Endre Ostbo, Bellevue, Washington; honorable mention, Malmo Nursery, 4700 25th Ave.. N. E., Seattle.

Class 7:

Rhododendron trusses, hybrid or species: First prize, Mrs. Darwin Meisnest, 2035 Parkside Drive, Seattle (Madame Chauvin); second prize, Donald G. Graham, 1900 Shenandoah, Seattle; third prize, Herbert G. Ihrig, Winslow, Washington; honorable mention, George Grace, Portland, Oregon (Fragrantissimum).

Class 8:

Fortunei series, one truss: Second prize, Mrs. O. B. Thorgrimson, 7140 55th Ave. S., Seattle (Decorum).

Class 11:

Triflorum series, one spray: First prize, Mrs. Henry Isaacson, The Highlands, Seattle (Yunnanense); second prize, Herbert G. Ihrig (Yunnanense); third prize, Herbert G. Ihrig (Coeruleum); honorable mention, Mrs. O. B. Thorgrimson (Chartophyllum).

Class 12:

Neriiflorum hybrid, one truss: First prize, George Grace.

Class 15:

Griersonianum hybrid, one truss: Second prize, Dr. W. B. Hutchinson, 7126 55th Ave. S., Seattle.

Class 17:

Cinnabarinum hybrid, one truss: First prize, Dr. W. B. Hutchinson; second prize, Donald G. Graham (Lady Chamberlain).

Class 19:

Best red hybrid, single truss: First prize, Mrs. C. J. Sebastian, Medina, Washington (Rosamund Mellais); second prize, Donald G. Graham (Hon.

Jean Mary Montague); third prize, Donald G. Graham (Rosamund Mellais); honorable mention, Donald G. Graham (Earl of Athlone).

Class 20:
Best Loderi, single truss: First prize, Donald G. Graham (Loderi King George); second prize, Edward I. Garrett, The Highlands, Seattle (Loderi King George); third prize, Dr. W. B. Hutchinson; honorable mention, George Grace (Loderi Venus).

Class 21:
Best white hybrid, excluding Loderi, single truss: First prize, Mrs. O. B. Thorgrimson (Loders White); second prize, Mrs. R. A. Neumann, 516 36th Ave. N., Seattle; third prize, Donald G. Graham (Loders White); honorable mention, Edward I. Garrett (Loders White).

Class 22:
Best yellow hybrid, single truss: First prize, Donald G. Graham (Zeider Zee); second prize, Edward I. Garrett (Butterfly); third prize, George Grace (Canary); honorable mention, T. F. Martin (Unique).

Class 23:
Best pink hybrid, single truss: First prize, Edward I. Garrett (Faggetter's Favourite); second prize, Donald G. Graham (Faggetter's Favourite); third prize, Donald G. Graham (Dawn's Delight); honorable mention, Donald G. Graham.

Class 24:
Best salmon or orange hybrid, single truss: First prize, George Grace (Mrs. W. C. Slocock); second prize, Donald G. Graham (Mrs. W. C. Slocock).

Class 25:
Best blue or purple hybrid, single truss: First prize, Mrs. O. B. Thorgrimson (Van Nes Sensation); second prize, T. F. Martin (Susan); third prize, Donald G. Graham (Blue Peter); honorable mention, Mrs. Louis C. Oulmonn, 10601 Marine View Drive S. W., Seattle (Van Nes Sensation).

Class 26:
Deciduous azalea, one spray: First prize, Edward I. Garrett (Vaseyii); second prize, Donald G. Graham (Mrs. Oliver Slocock); third prize, Mrs. Henry Isaacson (Vaseyii).

Class 27:
Evergreen azalea, one spray; First prize, Mrs. Earl Zinn, 2862 44th Ave. W., Seattle (Azalea Ledifolia); second prize, Mrs. Louis C. Oulmonn (Azalea Allifolia); third prize, Mrs. Henry Isaacson; honorable mention, W. E. Lackey, 6027 Roxbury St., Seattle (Kaempferi).

Class 29:
Best imported new hybrid rhododendron never previously shown at an American Rhododendron Society show: First prize, Mrs. Sophie Martin Cason, Portland, Oregon (Naomi); second prize, George Grace (Loderi Gauletti); third prize, George Grace (Mrs. Walter Burns).

Class 31:
Flower arrangements (judged by public vote). First prize, Mrs. E. A. Andrews; second prize, Mrs. Ofell Johnson; third prize, Mrs. E. M. Foisie.

Class 32:
Spray or trusses of any hybrid rhododendron, not exceeding five: First prize, Mrs. Don Palmer, 6956 55th Ave. S., Seattle (Falconeri); second prize, Mrs. O. B. Thorgrimson (Loderi King George).

Class 33:
Special class, blotch pink: First prize, Donald G. Graham (Mrs. G. W. Leak); second prize, W. E. Lackey (Mrs. G. W. Leak); third prize, Dr. Robert Morrow, 1928 Milford Way, Seattle (Mrs. G. W. Leak); honorable mention, Mrs. W. J. Pilz, Everett, Washington (Mrs. G. W. Leak).

Class 34:
Williamsianum hybrid: First prize, Mrs. O. B. Thorgrimson (Bowbells); second prize, T. F. Martin (Bowbells); third prize, Mrs. Earl Zinn (Bowbells); honorable mention, Dr. W. B. Hutchinson (Bowbells).

Outstanding Cut Exhibit in Show:
Herbert G. Ihrig (Cinnabarinum).

* * *

The Fremontia is named after John Charles Fremont, distinguished western explorer. His life is well described in Irving Stone's historical novel, "Immortal Wife."

* * *

Rhododendrons, azaleas and other shrubs have generally flowered more freely and lasted longer this cool spring than in 1947 and many more visitors have come to the Arboretum to see their beauty.

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# Book Reviews

*The Rhododendron Yearbook, 1947,* published by The Royal Horticultural Society, London, England. Price, cloth bound, $1.72.

THIS is the second Rhododendron Yearbook published by The Royal Horticultural Society since it took over the functions of the former Rhododendron Association. It is by far the finest publication of its kind to date and will be enthusiastically received by all rhododendron growers. It follows a new pattern; concentrating on articles of current and scientific interest and the awards and activities of the year, thus eliminating former duplication by listing names, ratings, botanical and historical information which occupied so much space and yet needed revision only at longer intervals. Such information is now published in a "Rhododendron Handbook" and is reissued and revised about every five years.

The first article is by Lord Aberconway and tells of the interesting rhododendron developments at Bodnant, his home in N. Wales. It describes both species and hybrids, including many well-known crosses which were made at Bodnant and which have become widely known in commerce and accepted as among the best of their kind. One feels in reading of his experiences that here is an enthusiast always working towards an ideal, and considering the number of awards for new plants he has received in the past nine years it behooves us to watch these recent introductions as well as those sure to be exhibited in the future.

It is especially noteworthy that many of his new plants are the lower growing varieties so badly needed in the small garden.

J. P. C. Russell's "Rhododendrons at the Sunningdale Nurseries" is primarily of historical interest as this nursery dates back to 1847. It is surprising to many of us who have thrilled at the sight of species rhododendrons flowering for the first time in our area to know that many of these were listed by the Sunningdale Nurseries in 1854. They included such species as *R. ciliatum, Thomsonii, Falconeri, cinnabarinum, campylocarpum* and others. It is doubly interesting to find that such old favorite hybrids as "Cynthia" and "Rosa Mundi" which still hold their own in today's gardens were introduced in 1860, nearly ninety years ago. Mr. Russell leads us through the old century into the earlier years of the present one, every page reminding us of the debt we owe to the work of these early growers and to their appreciation of beauty.

"Rhododendrons in Burma, Assam and Tibet" by S. Kingdon Ward might be classed as an adventure story, for Kingdon Ward writes with the fascinating style of a story teller, yet he is at all times factual (scientific if you please). His discoveries do not seem to be so much botanical as symbolical. They are rare jewels from far lands and you seem to share with him the joy of finding them in wild places, and of surrounding them with a strange aura. . . . "There are epiphytes also, sunk in the voluptuous moss which smothers the trunks of the firs—brassy yellow of *R. megeratum,* chick-down yellow of *R. seinghkuense,* sickly yellow of *R. micromeres,* atoned for by the brilliant gamboge and scarlet of its autumn leaves, and others. Thus we climb by easy stages up the long slanted valleys, or perhaps up and down along the crest of a ridge, to emerge at last on the windswept braes of the alpine zone. Now for the first time we gaze over square miles of rock and rhododendron, and not much else, the swirling colors of pygmy Lapponicums, Saluenenses, aromatic Anthopogons and bubbling Campylogynums making a never-to-be-forgotten picture; the whole rhododendron sea is flecked with shimmering foam, sulphur, apricot, salmon, Tyrian purple, violet. On the sheltered side of the valley the Neriiflorums in their various crouching attitudes glow blood red against the irregular patches of snow." Can any rhododendron lover read such lines and associate them with a purely botanical expedition? But I fear my words may do the author an injustice. Only by reading this delightful article can you appreciate the interest and beauty of it.

For those interested in interior use of flowers, "Rhododendrons for Indoor Decorations" by Rosa M. Stevenson tells of many attractive flower arrangements with descriptions and pictures. Anyone with plants large enough to permit cutting will find here an entirely new field of arrangement. With the diversity of leaf and flower pattern and the wide range of colors this study should be a fascinating one.

Mr. W. E. Ingwersen describes the areas in Europe where rhododendron species are found. While most of these are more familiar to us than the Asiatic species, he points out the important part these have played in rhododendron development as they are among the oldest known species used for garden purposes. His description of *R. luteum* on the northern slopes of the Caucasus reminds one of the beautiful stretches of *R. occidentale* in Oregon.

Edgar Stead in "Rhododendron of New Zealand" relates the splendid success with which this Northern Hemisphere plant has adapted itself to the country "down under." His experience in culture and in the development of new hybrids brings out many points deserving of careful consideration especially the use of sawdust as a soil conditioner and mulch. Perhaps with so abundant a supply at our own door we have overlooked its importance and a more careful study should be made of its merits.

"Hybrid Rhododendrons in the Pacific Northwest" are also represented in an article by your reviewer.

The next four articles might be called scientific and are all excellent. The one by Dr. J. Macqueen Cowan and H. H. Davidson on the Anthopogon series is to the layman perhaps the most important paper published in recent years because it is the beginning of a revision of "The Species of Rhododendron," a task long overdue.

To amateurs this means a considerable readjustment in the names of many species, for the Cephalanthum Series is now allied with Anthopogon and old friends like *R. sphaeranthum* becomes *R. trichostomum,* and *R. ledoides* a variety of the same species, to mention only two of the examples.

However difficult this may seem at first it was inevitable and we can no doubt expect much more of the same with the revision of

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the other series. With the great flood of new rhododendrons from Asia which began in the last century and reached its peak in the present one, it was only natural that many plants were classed as separate species or placed in different series because of characteristics which appeared to be distinctive. However, with further exploration, the growing of thousands of seedlings and additional research, a steady consolidation of the species has gone forward and our list of synonyms has grown larger. In the final analysis these changes will do much to clarify the study of rhododendron species by thousands of amateur growers and we hope the coming years will see a rapid revision of the other series.

"The Distribution of Rhododendrons" by Dr. J. Hutchinson has interesting maps showing the widespread range of the genus with some rhododendrons native to most of the Northern Hemisphere; extending below the equator only in the Malay Archipelago and touching the northeast corner of Australia with one species, *R. Lochae.* The azalea pattern is less extended and is centered in three areas: eastern Asia, the Caucasus and North America.

He also reports that the genus in fossil state has been found only in three places, all on the Pacific Coast of North America. One in Alaska, one in Trout Creek, Oregon, and one at Table Mountain in central California.

"Observations on the Classification of the Genus Rhododendron" by Kingdon Ward is primarily for the botanist, and "Rhododendron of Mount Omei, Western China," by Dr. Wen-Pei Fang is historical and descriptive of that region in which there is such a concentration of splendid plants. The drawings accompanying this article are outstanding.

Last but not least there is a report of the 1947 Rhododendron Show and the rhododendron awards made during the year with full descriptions and name of exhibitor.

—HERBERT G. IHRIG

* * *

In the interest of eliminating color disharmony, the plantings of *R. Griersonianum* and *R. Azor* have been separated in Rhododendron Glen.

*Douglas of the Fir,* 1947, by Athelstan George Harvey. Published by Harvard University Press, Cambridge, Mass. Price, $4.00.

ANYONE who is interested in plants, whether they be in a garden or in their natural environment, should know something about David Douglas. This is especially true of those of us who make our homes in the Pacific Northwest for Douglas' initial botanical explorations of importance, relative to the plants of North America, were made in this region. Many of his most noteworthy contributions to science were first seen by the eminent Scots explorer-botanist here. Furthermore, the finest monument to his memory—the Douglas fir—has contributed materially to the economic well-being of the Pacific Northwest.

Athelstan George Harvey's book, *"Douglas of the Fir,"* presents an interesting and inspiring picture of Douglas and his accomplishments. In its pages we see him as a careful, untiring worker, willingly braving—even enjoying—the privations, the hardships and the dangers of a pioneer in his search for new plants and other facts of natural history, to enrich the knowledge of the world of his time. We see him, too, as essentially a pioneer and explorer, a field naturalist, who chafes at and becomes bewildered at the confining dictates of "civilization." And with the background provided by this book we can understand and sympathize with his attitude in this regard.

A great deal of research has gone into the assembling of this material on this most interesting man. Yet it is not merely a collection of factual data. In fact, the nature of Douglas' life would mitigate against such treatment. But the essential facts are in this book, including many passages from Douglas' diaries; and these have been woven into an interesting narrative that paints a wholly adequate picture of this man who, by his accomplishments, deserves to be well known by all of us.

The Pacific Northwest can rejoice in the fact that this great naturalist lived when he did, and that the meager facilities existing in our region at the time when he did his work here (the early part of the 18th century) were

*(Continued on Page Thirty-nine)*

# ARBORETUM NOTEBOOK

*This department is published for correspondence and pertinent comments by experienced growers on interesting plants and their culture. We solicit your questions but space limitation necessitates the publishing of only such answers as we deem of general interest.*

## FOUR FLOWERING SHRUBS FOR JULY AND AUGUST

*Tamarix pentandra* from Eastern Europe grows from 12 to 15 feet in height with feathery foliage and long, graceful wands of pale and deep pink tiny blooms. In early spring, before growth starts, it should be pruned back, almost to the ground. It propagates easily from cuttings taken in late summer.

*Rhus cotinus* (now called, I believe, *coggygria)*, the Smoke Tree, is seldom more than a tall shrub and has blooms that look like pale pink, wispy smoke. It requires very little pruning, only to keep the branches from being too crowded. A dry, sunny spot is its favorite location where the leaves color beautifully in the fall.

*Escallonia edinensis* is a beautiful evergreen of vigorous growth and brilliantly shiny leaves. It has long arching branches literally covered with small bunches of pink flowers. When kept fairly dry, growth is not rampant, but when even moderately watered it will need constant summer pruning to keep the shrub the desired height and shape. It is easily propagated from cuttings taken in August.

*Eucryphia pinnatifolia* is one of the finest of all shrubs. It came originally from Chili and grows to 15 feet and over. The pure white, four petals of the flower surround a mass of yellow anthers making a rose-like flower. (In fact, it belongs to the rose family.) It almost requires a cool root run in a peaty, acid soil. Summer mulching is important and a dwarf growing shrub planted over its roots is particularly wise.

A. B. C.

* * *

Primula Florindae grows beautifully in my garden with its great mops of fragrant yellow blooms on three feet high stems. I have long wondered why Florindae should be written with a capital "F" and why the feminine ending to the word. Only recently I read in an English garden book that Mr. Kingdon Ward, its discoverer, named it for his wife.

G. T. D.

* * *

*Spiraea bullata* is a charming dwarf shrub, 18 inches tall and often 18 inches wide when fully grown. The flowers, in July and August, are a nice, deep rose color in crowded little bunches. Its leaves are dark green on the upper side and gray underneath, interestingly crinkled. These shrubs are fine to use in rock gardens or among dwarf rhododendrons. A little yearling pruning, merely snipping, keeps it low. It may be propagated by short cuttings taken in August.

* * *

## FROM THE HORTICULTURAL LETTER OF THE GARDEN CLUB OF AMERICA

Castor pomace, a sweet meal, has been found to give completely satisfactory results in the control of moles, particularly in lawns. Castor Pomace is the ground castor bean cake, or the solid material left after the oil has been extracted by pressure from the bean. Spread thinly over the surface of the lawn in very early spring, even before the snow is off the ground or shortly before a rain, choosing a still day as the dust may irritate the throat. It has also a fertilizer value, though a low one, the nitrogen content usually average about 5 per cent.

* * *

*Hydrangea paniculata* blooms on the tips of the stems with long, pointed cones of flowers, white, changing to pink as they grow older. It blooms on the current season's growth so should be pruned back severely—to within a few inches of the ground—in February.

*Hydrangea hortensis*, the variety with large, globular heads of pink, blue and white flowers should have the growing shoots thinned after it is through flowering in the fall and those stems that are left may be cut back slightly, but not heavily pruned, as the flowers come again on the old wood.

* * *

## CULTURE OF THE TREE PEONY

The tree peony, *Paeonia Moutan*, is not a long-lived plant in many gardens. If grafted on herbaceous peony understock, the plants are much more healthy and long-lived than if grafted on tree peony roots. Furthermore, suckers are more easily distinguished. However, in either case, rather drastic pruning should be followed in order to prevent botrytis, a fungus infection which may result in the loss of the plant.

Tree peonies should be considered as herbaceous plants, not as shrubs, and should be kept as low as possible by judicious and proper pruning. They have a very weak root pressure and lose their vigor if they are allowed to become tall and spindly. Prune all flowering shoots just after flowering, leaving two or three leaves at the base of each shoot. This usually means cutting off from nine inches to a foot of each flowering stem. The plant should not be allowed to seed except as desired for propagation. About every five years, or oftener if the plants grow to be over 2½ to 3 feet in height, they should be cut down almost to ground level, leaving two or three buds. Even tiny buds are sufficient. This drastic pruning should be done at the end of August or the early part of September. Such plants may not bloom the following year, but many new shoots will appear and the plants will resume blooming more profusely than before, by the second year following this low pruning.

The writer has followed this method of pruning for over twelve years and has never lost a tree peony.

I do not fertilize except for a light application of bone meal about every two years scattered around the plant in the early spring. Rather than fertilizing, I prefer to move the plants in the early fall every three or four years. Invariably they seem to thrive under moving.

D. G. G.

## FERNS FOR BORDER USE

Ferns represent the light form of non-flowering plants and lend themselves admirably to many types of gardening. Their exquisite grace and textural beauty, alone, should welcome them as a distinctive addition to any planting.

Ferns under cultivation can be used most advantageously in foreground, bay or underplantings in the shrub border. If properly combined, they make excellent accent and companion plants in the bulb and herbaceous plantings.

When making a selection for a respective planting, some may require sun-loving species for hot, dry places or wet boggy areas, while others may need the shade-loving ones to be used in a wet or dry situation. We surely need not think of them solely for woodland. There is a wide choice to choose from, both in evergreen and deciduous varieties and carrying a pleasing color range from yellow to bronze to black greens. The gray and dull surface greens generally prefer a drier situation. The glossier varieties are generally treated much like our evergreen shrubs with which they harmonize well. Some of the glossier types take on a purplish hue after a sharp frost.

A distinguishing feature of ferns, unknown to other plants, is that the entire leaf is rolled up in the bud, the tip being in the center. As the buds, or croziers, unfold, they display elegant and fantastic forms to be followed by the uncoiling of the pinnae which resemble woolly beads in delicate tints of pearly white, frosty green to peachy buff. Each genus is seemingly in competition for highest honors.

For border use, ferns are most accommodating plants and from whatever soil they have come, it is surprising how soon they adapt themselves to their new surroundings. Hardy ferns should be the choice providing a good soil mixture of equal parts loam, peat, leaf mold and coarse sand. (Rich-loving species would require a less rich soil with rubble). Most of these prefer filtered light or some protection from the direct rays of the sun and plenty of moisture during the growing season to carry off excessive water from their roots.

When planting ferns, do not bury the crowns for this would soon prove fatal. Too shallow planting would be better than too deep. Rhizomes running underground should be covered with one to two inches of soil. Surface runners should be pegged down until they have taken firmly to the soil. Allow ample spacing for good growth and air circulation and feed annually with a dressing of woods soil. Our damp atmosphere and cool nights are conducive to lush growth. Rain acts as a stimulant. Ferns are long lived and comparatively free from disease and pests.

For a dependable selection that will provide a pleasing choice of textures, coloring and heights, the Polystichums could almost take first place. They are a very decorative group comprising some of the most beautiful varieties imaginable. They are evergreen in sheltered places, easily grown in most any position. *Polystichum angulare* and varieties *divisilobum lineare, plumosum, grandiceps, densum, pungens cornutum* (from Cape of Good Hope) *acutilobum proliferum* and *congestum grandiceps* are all sturdy and suitable with shrubbery. And for the same purpose *Polystichum aculeatum* and varieties *cristatum* (a vigorous grower), *Pol. grandiceps* Abbott, *P. setosum* and *Braunii* seem to challenge each other for border use.

The genus *Dryopteris* is a varied group also, containing many of the most vigorous, most beautiful ferns. The varieties *linearis, mollis,* var. *corymbifera, crispa cristata, angustata cristata* are very distinctive and easy. There are many decorative varieties in the *dilatata* group. *D. Goldiana* is a robust American species and *D. marginalis* one of lower form with evergreen fronds of dense dark green. Both are common but of multiple use and favorites.

The Scolopendriums are handsome planted in any location protected from sun. They are one of the most interesting of the genus and are evergreen and delight in underwoods shrubbery. They are very common in England and comprise close to a hundred varieties. Their leathery texture is much to be desired in contrast to lighter material. *Scolopendrium (Phyllitis) vulgare* and vars. *bifidum, ramo-marginatum, crispum, aerocladon, digitatum, Kelwayi, multifidum* and *polyschides* would be an elegant selection.

Not to be forgotten are the Polypodies. They are a very interesting section and embrace some of the most beautiful species and varieties in cultivation. *Polypodium vulgare caudatum, Scouleri* (from Oregon), *P. multifidum fimbriatum, cambricum* and *pulcherrimum* from Wales with *P. semilacerum* would be representative of discriminating choice.

Of the deciduous ferns the *Athyrium Filix-femina* group are invaluable for general use. This group also is one of the more variable

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groups. Popularly known as the Lady Fern, and a lady she really is, so dainty and graceful are the varieties *Frizellae, Victoriae, Edwardsii, Fieldae, Grantae* and *grandiceps.* They have a quite charm and lacy texture exclusively their own.

For special placement *Osmunda regalis cristata* and *Cytomium falcatum Rockfordianum* have considerable appeal. *Polystichum Andersonii* and *Woodwardia radicans* are quite distinct, requiring ample space to display their regal beauty. *Woodwardia areolata* and *Onoclea sensibilis* are too rampant for the cultivated border. Handsome as they are they belong where the planting merges into the naturalized section. *Pteretis struthiopteis* is likewise unsuited to borders as they tend to die down too early in the season.

In the cool sections *Adiantum pedatum* and *A. emarginatum* are two interesting forms. They grow in such luxuriance when happy, as does the charming little Oak Fern, *Phegopteris dryopteris.*

Lack of color is never a problem in the use of ferns for they act as a foil to countless color combinations of herbaceous plants and bulbs that like the same growing conditions. Early bulbs, primroses, cheiranthus, aquilegia, *Iris Kaempferi,* astilbes, violas, bletilla, lilies, campanulas, anemonopsis, roses, hemerocallis, funkias, fuchsias, hydrangeas, tuberous begonias, aconitum, anemones are but a few reminders offering a wide color range for delightful combinations.

There are many hundreds of ferns to chose from and, as exquisite and useful as they are, they should prove so appealing that surely they will inspire one's interest and desire to grow them.

Mrs. W. A. Fisher.

* * *

Some clematis need almost no pruning, others need drastic cutting. Among those needing little or no pruning are *C. Armandii,* the evergreen clematis, which blooms in April on the previous year's wood. This vine will eventually cover a large space. Trim directly after blooming only as necessary to keep within bounds.

*Clematis montana,* which also blooms on the previous year's wood, if needed to cover a large space, should be left alone. Any necessary cutting back or thinning should be done directly after flowering. It is not generally known that this may be kept within a space approximately four feet square by constantly nipping out the soft central growth of each branch all summer. Left alone, the branch would become a long slender whip. With central nipping it branches compactly, and branches again after each soft central growth is nipped out with the thumb nail. Mine, on a low lattice fence, has thus been treated for years, has never developed an ugly leafless base, and the whole four-foot square is a huge bouquet from the top to the ground.

The Florida type as represented by the Duchess of Edinburgh, needs pruning only to keep it trained to the allotted space. Prune after blossoming.

The clematis that need severe pruning belong to the following groups:

Jackmani group, represented by the purple Jackman's clematis, in bloom about July 4, by the red Madame Edward Andre and by the pink Comtesse Bouchaud. All members of the Jackmani group should be cut severely in January when the bursting leaf buds are showing color. Sever just above the first bud group which will be twelve to eighteen inches above the ground. This will give a much stronger, healthier plant, and leaves will furnish the stem to the base, thus avoiding an ugly bare stem at eye level.

The Lanuginosa group is represented by Nelly Moser, the white Henryi and William E. Gladstone. Like the Jackmani group, these bloom on the new summer growth and should be sharply trimmed in January, as above, to give stronger, more abundantly blooming plants.

Beth Gilley Malmo.

* * *

*Viburnum Carlsii* suckers badly. It is often grafted on *Viburnum lantana.* Suckers can easily be distinguished by their lush growth and large, woolly, whitish leaves. These suckers should be cut out from below the graft.

* * *

Eden Phillpots writes of *Magnolia Campbellii* from Sikkim: "I have known travelers who built their campfires of the wood in the wild regions of its home."

* * *

For a long season of bloom no blue flower excells *Tradescantis virginica,* var. J. C. Weguelin, in style, color and ease of growth.

* * *

*"Neglect of trees and shrubs cannot result in anything better than mediocrity and mediocrity in the garden is the cursed thief that robs its inhabitants of their glory."*

A. J. Macself.

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## SOME OF MY FAVORITE BERRYING SHRUBS

1. Barberries—Any or all of the many varieties including Mahonia *(B. Aquifolium)*—Berries of many colors and shapes.
2. Cotoneasters—Many varieties from tall shrubs to rock garden plants.
3. Snowberry — *Symphoricarpos Albus* and *symphoricarpos Chenaulti-red.*
4. Pyrocantha, San Jose (red berries).
5. Beauty berry *(Calicarpa purpurea)* (lavender berries).
6. *Eleagnus pungens* (silvery brown berries).
7. High Bush Cranberry *(Viburnum trilobium)*
8. *Cornus Alba* or *C. Stolonfera*—red branches, white berries. The cedar wax wings come to feed on these.
9. Gaultherias—any or all, including, of course, our native Salal.
10. *Stranvaesia davidiana*—red berries, evergreen foliage with red tipped branches in winter.

Mrs. Frederick Zeusler

* * *

The appended lists are not an expression of cold, clean judgment—no one would agree with me that these plants are the best—they are simply a mark of my own affection and appreciation in that they have formed the pattern of my garden and have given me a great deal of pleasure. Last issue I gave my ten favorite trees and shrubs.

Some of my favorite species rhododendrons:

*R. yunnanense*
*R. souliei*
*R. leucaspis*
*R. williamsianum*
*R. racemosum*
*R. lutescens*
*R. radinum*
*R. camtschaticum*
*R. deleiense*
*R. crebreflorum*

Some of my favorite hybrid rhododendrons:

*R. Azor*
*R. Bow Bells*
*R. cilpinense*
*R. Betty Wormald*
*R. Dawn's Delight*
*R. Van Nes Sensation*
*R. Faggetter's Favorite*

Some of my favorite groundcovers among rhododendrons:

*Gaultheria miqueliana*
*Gaultheria nummularifolia*
*Shortia galacifolia*
*Shortia uniflora grandiflora*
*Schizocodon ilicifolius*
*Coptis asplenifolia*
*Vaccinium vitis—idaea* var.
*Epigaea asiatica*
*Cornus canadensis*
*Leucothoe keiskei*

Some of my favorite sub-shrubs:

*Leucothoe davisae*
*Ternstroemia japonica*
*Arctostaphylos nummularia*
*Ceanothus gloriosus*
*Raphiolepis japonica*
*Skimmia fortunei*
*Gaulnettya wisleyensis*
*Ilex crenata nummularia*
*Pernettya rupicola*
*Osmanthus delavayi*
*Vaccinium glauco-album*
*Vaccinium vitis-idaea*

Phyllis Ballard

## A LIST OF PLANT NAMES

| | |
|---|---|
| *abbreviatus* | abbreviated |
| Abelia | Shrubs, named after Dr. Abel, 1816 |
| *aberrans* | wandering |
| Abies | Fir trees. Derivation doubtful |
| *abietinus* | abies-like |
| Abrobra | Greenhouse plants. A Brazilian name. |
| *abortivus* | aborted |
| Abroma | Greenhouse evergreen Gr. *a*—not, *broma*—food |
| Abronia | Trailing plants. Delicate, referring to involucre enclosing unopened flowers |
| Abrotanum | Name for Wormwood |
| *abrotanifolius* | abrotanum-leaved |
| *abruptus* | abrupt |
| Abrus | Greenhouse climber. *abros*-delicate, referring to leaves |
| *absinthium* | absinthe-like |
| Abutilon | Shrubs. Arabic name for Mallow |
| *abyssinica* | Abyssinian |
| Acacia | Shrubs and trees. "Mimosa." Gr. *akazo*—to sharpen |
| Acaena | Creeping rock plants. Gr. *a*—thorn. Spiny calyx in some species |
| *acanthifolius* | Acanthus-leaved |
| *acanthocomus* | spiny-haired |
| Acantholimon | Rock plants. Gr. —prickle. Spiny foliage |
| Acanthopanax | Shrubs and trees. Gr. thorn, *panax*—a prickly plant |
| Acanthophoenix | Prickly Date palm |
| Acanthorhiza | Greenhouse plants. Gr. —prickly, *rhiza*—root |
| Acanthus | Herbaceous plants. Gr. —a prickle, spiny foliage |
| *acaulis* | stemless |
| *accolus* | dwells near |
| *acephalus* | headless |
| Acer | Maple trees. L. *acer*—sharp. wood once used for writing tablets |
| Aceranthus | Woodland plants. L. *acer*—sharp, *anthos*—a flower |
| Aceras | Orchids without a horn, having no spur to flower |
| *acerbus* | sour |
| *acerifolia* | maple-leaved |
| *aceroides* | maple-like |
| *acerosus* | needle-shaped |
| Achillea | Herbaceous and rock plants. After Achilles, Gr. hero who used plant in medicine. |
| *achilleaefolia* | Achillea-leaved |
| Achimenes | Greenhouse tuberous perennials. Gr. *cheimaino*—to suffer from cold |
| Achlys | Herbaceous perennials. The Goddess of obscurity |
| *achroanthum* | ill colored |
| *acicularis* | needle-like |
| Acidanthera | Tender bulbous plants. *akis*—cusp, *anthera*—anther, referring to cuspidate anthers |
| *acidissimus* | very sour |
| *acidus* | acid, sour |
| *acinacifolius* | scimitar-leaved |
| *acinaciforme* | scimitar-shaped |
| Acineta | Sub-terrestrial orchids. Immovable (jointless lip) |

| | |
|---|---|
| Acokanthera | Poisonous greenhouse shrubs. Mucronate anthers. |
| Acoelorrhaphe | American palm. Name of uncertain origin |
| Aconitum | Herbaceous plants. Gr. *akon*—a dart. Arrows were poisoned with juices of plant |
| *aconitifolius* | aconite-leaved |
| Acorus | Waterside perennials. Gr. *a*—without, *kore*—pupil of eye. Used in medicine |
| *acraium* | a dweller on the heights |
| *acris* | acrid, sharp |
| Acrocomia | American palm. Tuft of leaves on top |
| *acrotriche* | hairy-lipped |
| Actaea | Herbaceous plant. Gr. *aktaia*—elder. Leaves resembling those of that tree |
| Actinella | Rock and border perennials. Gr. *aktis*—a ray flower like sunflower |
| Actinidia | Climbing shrubs. Gr. *aktis*—a ray referring to star-like flower |
| Actinolepis | Hardy annuals. Gr. —a scale-like ray |
| Actinomeris | Herbaceous perennials. Gr.—irregular ray. |
| *aculeatissimus* | very prickly |
| *aculeatum* | prickly |
| *acuminatus* | long pointed, tapering |
| *acuminatifolius* | acuminate-leaved |
| *acutangulus* | acutely angled |
| *acutus* | acute |
| *acutifidus* | acutely cut |
| *acutifolius* | sharp-leaved |
| *acutilobus* | acutely lobed |
| *acutipetalus* | acute petals |

*(To Be Continued)*

* * *

## *The Morton Arboretum*

*(Continued on Page Five)*

administered by a board of trustees, of which Mr. Morton's daughter, Mrs. Joseph M. Cudahy, is chairman.

In accordance with Mr. Morton's wish the grounds are open from sunrise to sunset every day of the year and visitors are cordially invited to make use of the facilities offered them. There is no admission charge at any time.

* * *

With the aid of the new Hardie spraying equipment good control of the tent caterpillar invasion was obtained by spraying several times with D. D. T. or lead arsenate. Particular attention was paid to the flowering cherries, crabapples, and hawthorns along Azalea Way and in the Montlake section.

The Regal lilies planted on the east side of the upper road opposite the Williams Memorial Camellia Garden promise an encouraging display in late June and early July.

## *Spring Progress in the Arboretum*

*(Continued from Page Three)*

into mature specimens they should provide an outstanding spectacle of floral beauty for future visitors to the Arboretum, not easily equalled even at this season of the year.

* * *

A sure sign of a good gardener is his appreciation of the importance of choosing only the best forms of different species of plants. He recognizes that colors of blossoms, forms of growth and foliage vary in the same family and he never buys a plant until he has seen it in bloom.

* * *

A dead apple tree or other fruit tree may not be a complete loss, if fine varieties of clematis with different seasons of blooming are planted around it and left to climb through the dead branches.

* * *

Owing to the wet weather experienced in May (total 4.67 inches) later planting of young stock has continued until June this year.

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# Temperate Zone Magnolias

HERBERT G. IHRIG*

*An Amateur's Reference List of Species, Varieties and Named Hybrids Generally in Commerce With Synonyms and Obsolete Names*

THIS compilation was prompted by the widespread use of obsolete names and synonyms not only in commerce but in horticultural papers as well. This made it necessary for the amateur to refer frequently to numerous authorities and these in many cases gave conflicting information.

I thought that such a list would make proper identification easier and therefore made it primarily for personal use. It is not complete. Some names have purposely been left out, others probably should have been, but it may be of assistance to those who, like myself, have often been confused as to the proper identity of a given plant. (Species are indicated by bold face type.)

Where differences occur in usage of names, Rehder's "Cultivated Trees and Shrubs," second edition, has been accepted.

**M. acuminata** Linnaeus. Cucumber Tree.
Deciduous to 90 feet; leaves, 6 to 9 inches inches long; flowers greenish yellow or glaucous green, 2 to 3 inches high with upright petals; fruit pink, 3 to 4 inches long; Eastern United States, May and June.
— var. *cordata* (Michaux) Sargent. Now classed as separate species.
— — *maxima*, Bean
— — *variegata*, Bean

**M. amoena** Cheng.
Related to *M. stellata*, but with acuminatea leaves and 9 rose-pink sepals and petals. China.

*M. angustifolia* Loudon
A variety of *M. grandiflora;* leaves lanceolate, wavy.

*M. alba superba* Hort.=*M.* x *Soulangeana* var. *alba*
A variety of *M. Soulangeana*, white.

*M. Alexandrina* Hort.=*M. Soulangeana* var. *Alexandrina*
Flowers purple outside towards base, white inside; one of the earliest.

*M. amabilis* Hort.=*M.* x *Soulangeana* var. *amabilis*

*M.* Andre′ Leroy, Hort.=*M.* x *Soulangeana* var. Andre′ Leroy

**M. Ashei** Weatherby
Deciduous; related to *M. macrophylla;* to 25 feet; West Florida.

*M. atropurpurea* Hort.=*M. liliflora* var. *nigra*

*M. aulacosperma* Rehder & Wilson=*M. Biondii* Pampanini
Closely related to *M. salicifolia.*

*M. auriculata* Lamark=*M. Fraseri* Walt.

*M. australis* Sargent=*M. virginiana* var. *australis*

*M. borealis*=*M. Kobus* var. *borealis* Sargent
Leaves and flowers larger than type; taller tree.

**M. Biondii** Pampanini
Closely related to *M. salicifolia;* Central China.

*M. Brozzonii* Hort.=*M.* x *Soulangeana* var. *Brozzonii*
White shaded purple.

*M. Burchelliana* Hort.=*M. virginiana* var. *Burchelliana*

**M. Campbellii** Hooker fil & Thomson
Deciduous tree to 80 feet; leaves 5 to 12 inches long; flowers cup-shaped, 8 to 10 inches across on bare branches, white and pink inside, shaded crimson outside; petals 9 to 15 inches; fruit greenish brown, 6 to 8 inches long; Himalayas; March, April.

*M. Candolleana*=*M.* x *Soulangeana* var. *Candolleana*

*M. Candollii* Link.=*M. acuminata* L.

*M. Candollii* Savi.=*M. acuminata*

*M. Championii* Benth.=*M. Coco* var. *Championii*
Flower stalks and carpels silky, hairy; flowers larger, cream colored.

*M. citriodora* Hort.=*M. denudata*

**M. Coco** De Candolle
Deciduous shrub up to 12 feet; leaves 3 to 6 inches long; flowers white, fragrant, about 1¼ inches across; petals 6 inches. China.

*M. compressa*=*Michelia compressa* Maximowicz

*M. conspicua* Salisbury=*M. denudata*

*M. conspicua* var. *purpurascens*=*M. denudata* var. *purpurascens* (Maxim) Rehder & Wilson

*M. conspicua*
A name often misused by growers to designate deciduous types which flower before leaves.

**M. cordata** Michaux, formerly *M. acuminata* var. *cordata* (Mich) Sargent
Now considered a separate species; flowers more conspicuous than *M. acuminata*, canary yellow.

*M. cyathiformis* Hort.
A variety of *M.* x *Soulangeana;* flowers cup-shaped, light purple.

*M. cyathiformis* Ruiz=*M. denudata*

**M. cylindrica** Wilson
Related to *M. salicifolia*, but leaves smaller, narrower and thinner; fruit larger, cylindric; flowers before leaves open; Anhwei, China.

**M. Dawsoniana** Rehder & Wilson
Deciduous tree to 35 feet, closely related to *M. Sargentiana;* leaves 3 to 6 inches long, glabrous; flowers pink; fruit 4 inches long; Western China.

**M. dealbata** Zacc
From Mexico; February.

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[*] Mr. Herbert G. Ihrig, former editor of the BULLETIN, shows herewith that his horticultural interests are as authoritatively supported in the field of magnolias as of rhododendrons.

**M. Delavayi** Franchet

Evergreen tree to 30 feet; leaves 8 to 13 inches long; flowers white, fragrant; sepals 3 to 3½ inches long; petals 7—3¼ to 4 inches long; fruit 4½ to 5½ inches long; Southwestern China; July.

**M. denudata** Desrouss

Deciduous tree to 50 feet; leaves 4 to 7 inches long; flowers large, campanulate, white, sweet scented, about 6 inches across; petals and sepals almost alike, 9, concave, fleshy, 3 to 4 inches long; fruit brownish, 3 to 4 inches long, slender; China; April.

— var. *elongata* Rehder & Wilson
— — *purpurascens* (Maxim) Rehder & Wilson
*M. denudata* Schneider=*M. liliflora* Desrouss
*M. discolor* Ventenat=*M. liliflora*
*M. diva* Stapf=*M. Sprengeri* Pampan.; *forma diva* Stapf.
*M. elongata* Rehder & Wilson=*M. Sprengeri* var. *elongata* (Rehder & Wilson) Stapf
*M. exoniensis* Loudon=*M. grandiflora* var. *lanceolata* Ait

Vigorous growth, blooms early and freely.

*M. fasciata* Millais=*M. salicifolia* var. *fasciata*
*M. fasciata* Vent.=*Michelia fuscata* Bl.
*M. ferruginea*=*M. grandiflora* var. *ferruginea* Sims
*M. foetida* Sargent=*M. grandiflora* L.
*M. fragrans* Salisbury=*M. virginiana* L.

**M. Fraseri** Walter

Deciduous tree to 40 feet; leaves 8 to 20 inches long; flowers white, sweet scented, 6 to 9 inches across; petals 6 to 9, 5 to 6 inches long; fruit bright scarlet, 3 to 5 inches long; Southeastern United States.

*M. frondosa* Salisbury=*M. tripetala* L.
*M. fuscata* Andrews=*Michelia figo* Lour
*M. galissoniensis* Hort.

A variety of *M. grandiflora;* one of the hardiest forms.

*M. glauca* Linnaeus=*M. virginiana* Linnaeus. Sweet, Swamp, or White Bay; Beaver Tree
— var. *decidua*, a deciduous form
— — *longifolia* Loudon
*M. glauca* var. *Thompsoniana* Loudon=*M. Thompsoniana* Sargent
*M. glauca* Thunberg=*M. obovata*
*M. globosa* Hooker fil & Thomson

Deciduous tree to 25 feet closely allied to *M. sinensis;* leaves 4 to 9 inches; flowers precocious in nature, white; fruit 2 inches long.

— var. *sinensis* Rehder & Wilson=*M. sinensis* (Rehder & Wilson) Stapf
*M. gloriosa* Hort.=variety of *M. grandiflora*

Flowers 14 inches across; broad leaves.

*M. Gordoniana* Hort.=*M. virginiana*
*M. gracilis* Salisbury=*M. liliflora* var. *gracilis* (Salisbury) Rehder

Smaller flowers, dark purple outside; narrower leaves; also smaller shrub.

**M. grandiflora** Linnaeus. Bull Bay Tree

Tall evergreen to 80 feet; leaves 5 to 8 inches long; flowers white, fragrant, 7 to 8 inches across; sepals large; petals 6 to 12 inches; stamens purple; fruit rusty brown, 3 to 4½ inches long; Southeastern United States; May to August.

— var. *angustifolia* Loudon
— — *exoniensis*
— — *galissoniensis*
— — *gloriosa*
— — *Katheriniana*
— — *lanceolata*
— — *obovata*
— — *praecox*
— — *Pravertiana*
— — *rotundifolia*
*M. grandis* Hort.=variety of *M.* x *Soulangeana*

White outer petals, purple at base and middle.

*M. Halliana* Hort.=*M. stellata*
*M. Hartwegii* Hort.=*M. grandiflora*
*M. hirsuta* Thunberg=*M. denudata*
*M. Hoonoki* Siebold=*M. obovata*
*M. hybrida* Dippel=var. *M.* x *Soulangeana*
*M. hypoleuca* Siebold & Zuccarini=*M. obovata* Thunberg
*M. insignis* Wall=*Manglietia insignis* (Wall) Bl.
*M. Katheriniana* Bedelian

A variety of *M. grandiflora* with broad leaves; flowers smaller.

*M. Keiskei* Makino

A variety of *M. stellata;* densely flowered shrub; flowers smaller, purple outside.

**M. Kobus** D. C.

Deciduous tree to 35 feet; leaves 3½ to 6 inches long; flowers 4 to 5 inches across; sepals small and narrow; petals 6, spreading thin 2 to 2½ inches long; fruit dark brown, 4 to 5 inches long; Japan; April and May.

— var. *borealis* Sarg.

Tree to 80 feet. Leaves and petals larger.

*M. Kobushi* Mayr=*M. Kobus*
*M. lanceolata* Link=*M. grandiflora* var. *lanceolata* Ait.
*M. latifolia* Aiton=*M. virginiana* L.
*M. Lenneana* Hort.=*M.* x *Soulangeana* var. *Lennei*
*M. Lennei* Topf.

A variety of *M.* x *Soulangeana* Soul.
Flowers deep crimson outside; late.

**M. liliflora** Desrouss

Deciduous, usually a large shrub; leaves 4 to 7 inches long; flowers large, campanulate, white inside, purple outside, scentless; petals about 3½ inches long; sepals small, greenish yellow; fruit brownish; China, Japan; May and June.

— var. *gracilis* (Salisbury) Rehder
— — *nigra* (Nichols) Rehder
*M.* x *Loebneri* Kache *(M. stellata* x *Kobus)*

Leaves and flowers larger than in *M. stellata.*

*M. longifolia* Sweet

A variety of *M. virginiana;* blooms during longer period of time.

**M. macrophylla** Michaux. Large-leaved Cucumber Tree.

Deciduous, to 50 feet; leaves 1½ to 3 feet long; flowers cup-shaped, fragrant, 10 to 12 or to 18 inches across; usually purplish at base; petals 6, 6 to 7 inches long; fruit rose colored, 3 inches long; South and Southeastern United States; May and June.

*M. major* Sims

A variety of *M. Thompsoniana* (Loudon) Sargent.

*M. maxima* Loddiges=*M. acuminata* L.
*M. Michauxi* Hort.=*M. macrophylla* Michaux

**M. mollicomata** W. W. Smith

Similar to but not quite equal to *M. Campbellii;* deciduous, to 80 feet; leaves 6 to 10 inches long, 4 to 5 inches across; flowers 10 inches wide, flushed pink, on bare branches, about two weeks later and reported hardier. Also flowers earlier in life; fruit 5 to 6 inches long; Yunnan; Southeastern Tibet.

*M. Nicholsoniana* Hort.=*M. sinensis* (Rehder & Wilson) Stapf

*M. Nicholsoniana* Rehder & Wilson=*M. Wilsonii forma taliensis* Rehder
Deciduous shrub or small tree to 20 feet; leaves 3 to 5 inches long rufous-hairy beneath on midrib only; flowers white, cup-shaped, 4 inches across; sepals and petals usually 12, inner row shorter; filaments and carpels usually red; fruit 1 to 2 inches long; China; June.

*M. Niemetzii* Hort.
A fastigate form of *M.* x *Soulangeana* Soul.

*M. nigra* Rehder
(See *M. Soulangeana* var. *nigra*)

**M. nitida** W. W. Smith
Evergreen tree or shrub to 20 or 30 feet; leaves 2¼ to 4½ inches long, 1 to 2 inches wide; flowers white, fragrant; petals 9; sepals 3; fruit 2 to 3 inches long; Yunnan; Southeastern Tibet.

*M. Norbertiana* Hort.
A variety of *M.* x *Soulangeana;* flowers white and light purple; one of the latest to bloom.

*M.* obovata Ait.=*M. grandiflora* L.

**M. obovata** Thunberg
Deciduous tree to 100 feet, sometimes called *M. hypoleuca;* branches purplish; leaves 8 to 14 inches long; flowers 6 to 7 inches across, cup-shaped, fragrant; petals 6 to 9; stamens with purplish filaments; fruit scarlet, 8 inches long; Japan; June.

*M.* obovata Nicholson=*M. grandiflora* var. *obovata* Ait.

*M.* obovata Willdenow=*M. liliflora* Desrouss

**M. officinalis** Rehder & Wilson
Deciduous tree to 40 or 50 feet closely related to *M. obovata* Thun; branches yellowish; leaves 14 to 21 inches long, 5 to 10 inches wide; flowers white, fragrant; cupped 5 to 8 inches across; sepals and petals 9 to 12; stamens red; fruit 4 to 5 inches; Central China.

*M. oyama* Hort.=*M. Sieboldii* K. Koch.

*M. parviflora* Blume., not Siebold & Zuccarini=*Michelia Figo* (Lour.) Spreng.
*(Michelia fuscata* (Andr.) Bl.)

*M. parviflora* var. Wilsonii, Finet & Gagnep=M. Wilsonii (Finet & Gagnep) Rehder

*M. parviflora* Siebold & Zuccarini
Former name for what is now known as *M. Sieboldii,* K. Koch.

*M. pennsylvanica* Hort.=*M. acuminata* L.

*M. praecox* Hort.
A variety of *M. grandiflora.*

*M. praecia* Correa=*M. denudata*

*M. Pravertiana* Hort.
A variety of *M. grandiflora* of stubby, pyramidal habit.

*M. precia* Loisel=*M. denudata* Desrouss

*M.* x *Proctoriana* Rehder
*(M. salicifolia* x *stellata)*

*M. pumila* Andrews=*M. Coco* D. C.

*M. purpurascens* Rehder & Wilson
A variety of *M. denudata;* flowers rose red outside, pale pink inside; possibly a cultivated hybrid from Japan.

*M. purpurea* Curtis=*M. liliflora*

**M. pyramidata** Bartram
Deciduous slender tree to 30 feet; leaves 5½ to 8½ inches long, auricled at base; flowers 3½ to 4 inches across; sepals shorter than petals; petals 6 to 9; fruit bright rose, 2 to 2½ inches long; Southeastern United States; June.

*M. robusta* Rehder & Wilson
A variety of *M. Sargentiana* (some authorities consider it a separate species); leaves obovate, 6 to 9 inches long; flowers when quite young, mauve pink, 10 to 11 inches across; fruit 7½ inches long; flowers much earlier than *M. Sargentiana,* before leaves open.

*M. rosea* Veitch
A variety of *M. stellata*

**M. rostrata** W. W. Smith
Deciduous tree 40 to 60 feet; leaves 20 inches long, 12 inches wide; fruit bright red, 5 to 6 inches long; Yunnan; Southeastern Tibet; Upper Burma.

*M. rotundifolia* Hort.
A variety of *M. grandiflora;* roundish leaves.

*M. rubra* Nichols
A variety of *M.* x *Soulangeana*

*M. rustica* Hort.=*M. acuminata* L.

*M. rustica rubra* Bean.=*M.* x *Soulangeana* var. *rustica*
Thought to be a seedling of *M. Lennei.*

**M. salicifolia** (Siebold & Zuccarini) Maximowicz
Deciduous slender tree to 30 feet; leaves 3 to 6 inches long; flowers white, 5 inches across, before leaves; petals usually 6, 2 to 2½ inches long; sepals greenish white, half as long as petals; fruit 1⅓ to 3 inches long; Japan; April.

— var. *concolor* Miquel
More spreading habit, later flowering.

*M. salicifolia* Hort.=*M. grandiflora* var. *angustifolia*

**M. Sargentiana** Rehder & Wilson
Deciduous tree to 75 feet; leaves 4 to 7½ inches long; flowers rosy red, 8 inches across; fruit 4 to 6 inches long; flowers before leaves; Western Szechuan.

— var. *robusta* Rehder & Wilson

**M. Sieboldii** K. Koch
Sometimes known as *M. parviflora;* small, deciduous tree or bush; leaves 4 to 6 inches long; flowers white, fragrant, cup-shaped, 3 to 4 inches across; large pink sepals; petals usually 6; stamens crimson; carpels few; some forms have deep scarlet stamens much more desirable than the weaker shades; Japan; Korea; June.

**M. sinensis** (Rehder & Wilson) Stapf
Deciduous small tree or large bush to 20 feet; leaves 3 to 7 inches long, 2 to 5½ inches wide; flowers white, nodding, fragrant, 3 to 4 inches across; fruit 3 inches long; China.

*M. x. Soulangeana* Soulang.
*(M. deundata* x *liliflora)*
Deciduous shrub or small tree, intermediate between parents; flowers large, campanulate, white, more or less purplish outside, often fragrant; flowers when leaves are appearing.

— var. *alba superba*
— — *Alexandrina*
— — *Brozzonii*
— — *Burgundy*
— — *cyathiformis*

— — *grandis*
— — *Lennei*
— — *Niemitzii*
— — *Norbertiana*
— — *rustica*
— — *speciosa*
— — *spectabilis*
— — *triumphans*
— — *San Jose*
— — *nigra* Nichols=*M. liliflora* var. *nigra* (Nichols) Rehder

*M. speciosa* Hort.
A variety of *M.* x *Soulangeana*

*M. spectabilis* Hort.
A white form of *M.* x *Soulangeana*

**M. Sprengeri** Pampanini
Closely related to *M. denudata;* sepals and petals 12; rose carmine outside, white and flesh or streaked pink inside. Central China.

**M. stellata** (Siebold & Zuccarini) Maximowicz
Small deciduous tree or shrub; leaves 2 to 5 inches long, obtuse; flowers white, sweet scented, 3 inches across; petals 9 to 18, narrow oblong, spreading and afterwards reflexed; Japan; March, April.
— var. *rubra*
— — *rosea* Veitch. Petals suffused pale pink

*M. stricta* Hort.=*M. grandiflora* var. *stricta*. Close to var. *exoniensis*

*M. taliensis* W. W. Smith=*M. Wilsonii* var. *taliensis*

*M.* x *Thompsoniana* Loudon *(M. tripetala* x *virginiana)*
Small tree; leaves 5 to 9 inches long; flowers white, fragrant, 4 to 5 inches across; petals 6 to 9, 4 to 5½ inches long; sepals recurved, light green; fruit rose colored, 2½ to 4 inches long; May.

*M. Thurberi* Hort.=*M. Kobus*
*M. tomentosa* Thunberg=*M. Kobus*

**M. tripetala** Linnaeus. Umbrella Tree
Deciduous to 40 feet; leaves 12 to 24 inches long; flowers 8 to 10 inches across, of disagreeable odor; petals 6 to 9, 4 to 5 inches long; sepals recurved, light green; fruit rose colored, 2½ to 4 inches long; Southeastern United States; May.

*M. triumphans* Hort.
A variety of *M.* x *Soulangeana;* pink towards base outside.

*M. tsarongensis* W. W. Smith=*M. globosa* Hooker fil & Thomson
*M. umbrella* Lamarck=*M. tripetala* L.
*M. Van Houttei* Hort.=*M. Lennei* var. *Van Houttei*

*M. variegata* Bean
A variety of *M. acuminata*

*M.* x *Veitchi* Bean *(M. Campbellii* x *denudata)*
Deciduous tree to 40 feet; leaves 7 to 15 inches long, downy on veins beneath; flowers campanulate before leaves appear, April; petals 9, white, flushed pink outside. Artificial hybrid.

**M. virginiana** Linnaeus. Sweet, Swamp, or White Bay; Beaver Tree
Shrub or small tree, evergreen in the south, semi-evergreen in the north; leaves 3 to 6 inches long; flowers white, globose, fragrant, 2 to 3 inches across; sepals nearly as large as petals, spreading; petals 9 to 12; fruit red, 2 to 2½ inches long; Eastern United States; May, June, July.

*M.* x *Watsonii* Hooker fil. *(M. obovata* x *Sieboldii)*
Large bush or small tree to 25 feet; leaves 4 to 7 inches long; flowers 6 to 8 inches across, creamy-white; 6 to 9 petals; carpels many; formerly considered a species; June. Origin unknown.

**M. Wilsonii** (Finet & Gagnep) Rehder
Deciduous shrub or small tree to 20 feet; leaves 3 to 5 inches long; flowers white, cup-shaped, nodding, fragrant, 4 to 5 inches across; sepals and petals usually 9, equal in size; filaments and carpels red; fruit 2½ inches long; Western China; June.
— var. *taliensis* (W. W. Smith) Rehder

*M. Yulan* Desfontaines=*M. denudata* Desrouss

* * *

The Paulownia tree was named for Anna Paulowna, a princess of The Netherlands.

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## *A Longer Lilac Season*

*(Continued from Page Twelve)*

different in all respects. Leaves are mottled. Panicles are open, seven to ten inches long, four inches wide with several long, leafy laterals carrying bloom. Tourmaline-Pink. Upright habit of growth.

*Kim* makes a tall, strong bush much like *S. Josikaea.* Panicles are long, open, ten inches long, five inches wide. Purplish-Lilac, tips pale.

A later second generation seedling of *S.* x *Guinevere* is "Elaine," a tall, vigorous, very erect growing shrub, with large, coarse leaves, distinct from other lilacs. Flower panicles upright, six to 12 inches long, five inches wide, with several laterals. Flower buds Pale Rose-Purple, open bloom white, faintly fragrant. Blooms about three weeks after the French hybrids.

Two of our best and more recent hybrids which so far have not been widely distributed are "Fountain" and "Ethel M. Webster." "Fountain" is the result of a backcross *(S. reflexa* x *S. Sweginzowii)* x *S. reflexa.* It makes a rounded bush six or seven feet tall and for two weeks is covered with long, pendulous flower clusters of Pale Purplish-Lilac. It is an excellent variety for use as a specimen shrub for a lawn. (See illustrations on Pages 11 and 12.)

"Ethel M. Webster" is a hybrid between *S. reflexa* and a plant variously identified as *S. Wolfi* and *S. Sweginzowii.* This variety is very floriferous and makes a symmetrical bush. Panicles are eight to ten inches long, six inches wide, tapering to a point with the nodding habit of *S. reflexa.* Pale Laelia-Pink.

In addition to the late flowering lilacs already described, a number of early flowering varieties have been produced. From *S. vulgaris* var. "Negro" x "Lamartine," two seedlings were selected and named "Norah" and "Muriel." Open pollinated seed of "Lamartine" produced "Patricia" and "Peggy." All these forms of *S. hyacinthiflora* are early flowering, and come into bloom before *S. vulgaris* varieties. Their growth habit is similar to varieties of *S. vulgaris* with the exception of "Norah," which makes a rounded bush, well-furnished to ground level.

"Norah" has large panicles of large flowers of Dull Magenta-Purple. "Muriel" has large panicles of lilac. "Patricia" is quite distinct from the others, having large, open panicles of Purplish-Lilac. Individual flowers are large and double.

"Peggy" has long, loose, open panicles with terminal branching. Blooms freely. Verbena-Violet changing to Argyle-Purple. Individual flowers large, single. A choice pale variety.

* * *

The bank above and the areas surrounding the parking lot near the Lynn Street foot bridge have been planted with camellias, rhododendrons, dogwood and hemlocks.

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## Lilacs

*(Continued from Page Nine)*

da, and Valeria to be the most distinct. Finally there is an unnamed group *(villosa* x *Sweginzowii)* which includes the variety Hedin raised by Skinner. Hybrids between additional species have been made and can be expected to appear in commerce from time to time. There is already room for much selection from the many kinds which have been introduced. Certainly, there are too many and in the limited range of form, color, and season a total of not more than a dozen or 25 varieties will be made.

There remains to be considered the latest blooming of all, which are the species grouped by the botanists under the subgenus *Ligustrina* indicating the close relation to the privets. Three of these are commonly grown, *Syringa amurensis* and its variety *japonica,* and *Syringa pekinensis.* The flowers come fairly late in June and are useful on account of their lateness. All of them are white. Up to the present time apparently no one has succeeded in crossing varieties of this subgenus with the varieties of the other botanical groups of *Syringa.*

* * *

*Eremuri* prefer to be moved in August and September. When planted later if there is any injury to the fleshy roots they may rot with the winter moisture.

* * *

A late summer blooming plant seldom seen is *Dierama pulcherrina.* Belonging to the iris family it has long grayish green, six-foot flowering stems with drooping tassels of lavendar, pink or white tubular flowers. It is easily raised from seed and prefers a sunny situation.

* * *

Rosa Roulettii is of Chinese origin. During the first world war M. Henri Correvon propagated this rose and named it to honor Major Roulett.

* * *

Over a thousand shrubs along Azalea Way and in Rhododendron Glen have been newly labeled during the past few months.

* * *

The name of Corylopsis derives from the Latin *Corylus,* meaning "hazel" and the Greek *opsis,* meaning "like"—"like the hazel."

* * *

The area near the old Army gardens, east of the Upper Road, where plantings of Cistus were made last fall, has been named the "Cistus Mound."

* * *

Soil specimens from several areas of the Arboretum have been sent to laboratories at Washington State College for analysis, preliminary to an extensive planting program.

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## *The Genus Pieris*

*(Continued from Page Seven)*

States and while it is hardy it has never been as popular as the evergreen species. *P. Mariana* is rather a stiff shrub with open spreading branches bearing thin leathery leaves about 2 inches long and 1½ inches wide, broadest in the middle and tapering at both ends, short stalked and without any toothing on the margins, pale green in color. In autumn and early winter in some districts the foliage turns a rich brownish red. The flowers are borne in clusters of up to 8 flowers at the ends of the branches in June and July; the calyx lobes, which are lance-shaped, are about ¼ of an inch long; the corolla is about ½ an inch long, white tinged with pink, without angles and has 5 small tooth-like lobes. Two varieties are often given in books, namely, vars. *ovata* and *oblonga,* both distinguished from the type by the shape of their leaves.

*P. ovalifolia* is a native of the Himalayas and western China. It is a deciduous shrub, or in milder parts it may be partially evergreen, of 6 feet or more, or in its native home may be a small tree. The stiff, broad oval leaves are sharp-pointed, round at the base and with entire margins, and measure about 5 inches in length and nearly 3 inches in width; on the veins of the leaves on the under side there are often hairs. Borne in racemes of 5 inches or so, both terminal and axillary, the flowers have small triangular calyx lobes less than ⅛ of an inch long, the corolla is narrowly urn-shaped, white, ⅜ of an inch long with five small erect lobes. Commences to bloom in June or early July. There is a variety *lanceolata* with narrower leaves; this was at one time considered a species and was one of the first to be described as a Pieris. While *P. ovalifolia* is a hardy species it prefers the softer and milder parts.

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*P. taiwanensis.* One of the hardiest of the genus *P. taiwanensis,* is a native of the mountains of the Morrison Range in Formosa where it is found at elevations of from 2000 to 3000 meters. Forming an evergreen, compact, erect shrub of up to 10 feet high, the branches are quite distinct in their yellowish-green color. The leaves are hard and a bright glossy green, oblanceolate to lanceolate, tapered at both ends, toothed on the margins, 5 inches long by about an inch wide. Produced at the ends of the shoots early in the year, the flowers are borne in racemes of 30 or more in number, several of the racemes together and often branched. The flowers are pure white, pitcher-shaped, about ⅜ of an inch long, ¼ of an inch wide, with five reflexed lobes and narrowed at the mouth; the calyx lobes are green, only ⅛ of an inch long, ovate in shape. There is often a marked difference in the way in which the racemes of the species are held, usually they are erect but sometimes horizontal or almost drooping.

* * *

## *Administrative Grounds Development Fund*

The dusty parking area surrounding the administrative offices at the Arboretum has reminded many visitors of the need for improvement both in adequate surfacing and landscaping of the area. The response of the Arboretum Units toward this fund has been very gratifying since the appeal was made at the March Unit Council meeting at the Broadmoor Club House. There is now a total of $78.00 on hand. Contributions from individuals and groups will be gladly received by the Arboretum Foundation to be credited to the Administrative Grounds Development Fund.

* * *

A lady's tan and brown coat and a blue and white apron were left at the tent during the Rhododendron Show. Owners may claim these items at the Arboretum Foundation office.

## *Notes and Comments*

*(Continued from Page Twenty)*

from the very fine point of his pen into the pages of two recent editions of as many British horticultural publications. One, entitled "Plants of Mount Angeles," appeared in the December, 1947, issue of the Quarterly Bulletin of the Alpine Garden Society, published in Kent; and the second, "Amelanchier Cusickii," in the Journal of the Royal Horticultural Society, London, May, 1948. Both were illustrated with photographs taken by Mr. Mulligan.

* * *

The editorial board of THE BULLETIN acknowledges with gratitude the assistance of Mr. Roy Leighton, of Edmonds, Washington, whose suggestions helped bring together much of the lilac material in this issue; and at the same time the board welcomes back into the columns of THE BULLETIN Mr. Herbert G. Ihrig, the publication's former editor, whose contributions herein enclosed call attention to the fact that he has been too long absent.

Mr. Leighton, incidentally, was one of the judges for the Spokane Lilac Show, reported on in this issue.

* * *

Mr. Robert J. Hansen, assistant director of the Arboretum, was elected president of the Washington Society of Landscape Architects at the third annual election of officers meeting held June 11 at the Y. M. C. A. Other officers for the coming year are: Sherman Ingels, Tacoma, vice-president, and Arthur McLish, Seattle, secretary.

* * *

Forty employees and horticultural students of the Vancouver, B. C., Park Department made a tour through the Arboretum in May, also visiting the Rhododendron Show.

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## *Book Reviews*

*(Continued from Page Twenty-six)*

available to him. We, and the entire botanical world, can feel nothing but regret that his full and useful life was brought to such an early and tragic end.

*"Douglas of the Fir"* is a book that should find a ready welcome in the library of any gardener, any lover of the outdoors, or anyone who thrills at the adventures of one who accomplishes much under tremendous hardships.

—C. FRANK BROCKMAN

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## *Azalea Time*

*(Continued from Page Nineteen)*

of color. Here and there were thrown in a patch of orange or equally vivid color to strengthen and stimulate the whole color scheme.

The color composition is based upon the principles of broken color and light so admirably set forth by the painters of the French Impressionist school, and is successful here chiefly because of the terrain with its excellent undulations and the large scale of the planting.

Early and late flowering clones are intermingled so that the predominating early effects range from white to deep rose accented by purple, orange and scarlet, while the late flowering color scheme is predominantly white to pale coral to deep crimson and purple.

Some strikingly handsome whites and pinks of different shades have flowers of an average size of 2½ inches and compare very favorably in beauty with the best of our rhododendrons.

Our own beautiful sweet-scented *R. occidentale* is not hardy in the rigorous Washington, D. C., climate, but among the azaleas given by the Dutch growers are the Ghent hybrids of which one parent is *R. occidentale,* and these have the fine character of the species, plus hardiness.

Mr. Morrison has many ideas for future improvement of the genus azalea and we hope we may see the fulfillment of his dreams.

Under arrangements now being made, many of these new and desirable azalea varieties will be sent to our own Arboretum.

*Magnolia Veitchii,* the hybrid between *M. denudata* and *C. Campbellii,* flowered this spring for the first time in the Arboretum.

⁂

Reports on the sale of tickets at the Rhododendron Show are incomplete as many members have not reported the sale of their tickets or returned tickets not sold to the Foundation office. We will appreciate your response that we may complete the tally.

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